

# IS FMCSA'S CSA PROGRAM DRIVING SMALL BUSINESSES OFF THE ROAD?

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## HEARING BEFORE THE COMMITTEE ON SMALL BUSINESS UNITED STATES HOUSE OF REPRESENTATIVES ONE HUNDRED TWELFTH CONGRESS SECOND SESSION

HEARING HELD  
JULY 11, 2012



Small Business Committee Document Number 112-077  
Available via the GPO Website: [www.fdsys.gov](http://www.fdsys.gov)

U.S. GOVERNMENT PRINTING OFFICE

76-484

WASHINGTON : 2012

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## **IS FMCSA'S CSA PROGRAM DRIVING SMALL BUSINESSES OFF THE ROAD?**

**WEDNESDAY, JULY 11, 2012**

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON SMALL BUSINESS,  
*Washington, DC.*

The Committee met, pursuant to call, at 1:07 p.m., in room 2360, Rayburn House Office Building, Hon. Sam Graves (Chairman of the Committee) presiding.

Present: Representatives Graves, Chabot, Mulvaney, Landry, Herrera Beutler, West, Hanna, Hahn, and Velázquez.

Mr. WEST [presiding]. The hearing is now called to order. I would like to think the witnesses for appearing today on two issues critical to small businesses and our Nation's economy: Commercial highway vehicle safety and the efficient and affordable transportation of goods.

The vast majority of commercial motor vehicle firms in operation today are small businesses operating 20 trucks or less. I think witnesses testifying here today on behalf of these firms, and all members of the committee believe that increasing highway safety is critically important.

Annually, Congress authorizes hundreds of millions of dollars to be spent on public education campaigns and Federal and State and local law enforcement partnerships for the sole purpose of keeping our Nation's highways safe. These efforts have achieved significant results. Overall, highway fatalities are down despite year over year increases in the amounts of miles driven by American motorists. These declines have been especially pronounced in the highway freight industry.

Between 2005 and 2010, fatal accidents involving large commercial motor vehicles declined by more than 26 percent. While there is always room for improvement, it is clear that government and private industry efforts to improve safety are having a positive effect.

The purpose of today's hearing is to examine how the Federal Motor Carrier Safety Administration's Compliance Safety Accountability program, also known as CSA, affects small businesses in the commercial trucking industry. Of particular importance to small business is the Safety Measurement System component of the program, which will be the major focus of our discussion today.

According to FMCSA, the goal of the Safety Measurement System, or SMS, is to prospectively identify those operators the agency believes are likely to cause a future highway accident so that it

may target appropriate interventions aimed at correcting their behavior.

Unfortunately, since implementation of this program began in 2010, a number of industry stakeholders and third party researchers have identified what they believe are serious flaws in the Safety Measurement System methodologies. These flaws not only call into question the ability of the CSA to achieve its primary goal to identify unsafe actors that cause highway accidents, but also whether in too many instances the new system is identifying safe operators as unsafe.

Of particular concern to the committee are the significant adverse consequences that the inaccurate safety scores may have on trucking companies, 97 percent of which are small businesses.

We are fortunate to have with us today witnesses who can provide important insight into how this new highway system works in real life and what changes may be necessary to improve it. Again, I want to thank them for participating, and I now turn to Ranking Member Velázquez for her opening statement.

Ms. VELÁZQUEZ. Thank you, Mr. Chairman.

The trucking industry has an enormous impact on our economy. According to the Bureau of Transportation Statistics, trucks only transport 9 billion tons of freight value of more than \$8 trillion. The trucking industry is also composed mainly of small business operators. Of the 76,000 firms nationwide, 95 percent have 40 or fewer trucks. The large economic impact is not without risk. Over 5,000 people are killed annually in commercial motor carrier accidents. A number of steps have been taken to improve highway safety over the years, starting in the 1930s with hours of service limitations.

Today's hearing will focus on the Department of Transportation's newest approach, CSA 2010, to remove unfit drivers and carriers from the Nation's highways. The CSA program seeks to analyze not only motor carriers but drivers who are at risk from a safety standpoint instead of simply reporting data which the FMCSA believes demonstrates the safety status of the motor carrier or the driver. The goal is to measure safety performance across a broad range of indicators, including driver fatigue and fitness, drug and alcohol use, past history and vehicle maintenance.

The Federal Motor Carrier Safety Administration has argued the changes will have a minimal impact on the transportation industry while increasing highway safety and reducing casualties. However, some estimate the proposal could decrease the pool of commercial drivers by up to 10 percent resulting in higher prices on everything from consumer goods to raw materials.

CSA will allow FMCSA to reach a broader spectrum of trucking firms than in previous safety audit programs which only focus on the worst of the worst of about 1 to 2 percent of motor carriers. By expanding oversight FMCSA will be more comprehensive in its scope of industry coverage and allow for intervention before more serious violations occur.

Trucking firms are able to access a 5-year history of driver crash data and a 3-year history of roadside inspection data before hiring drivers. CSA will provide small carriers with a level playing field

to compete for the best drivers while preventing unsafe drivers from gaming the system.

The program is not without its drawbacks, however, and still relies heavily on State level authorities, including the police and safety inspectors. Many trucking industry representatives contend that crash and inspection data is not being properly reported to the FMCSA, resulting in inaccurate safety scores. Critics have also pointed to the wide disparity in the level of safety enforcement among States. A trucker that happens to operate more in States with heavier enforcement will have a worse score than a trucker that happens to operate in States with lighter enforcement. Again, this can negatively impact both drivers and carriers when they compete with out-of-State firms for business opportunities.

Today, we will examine how the CSA program is affecting small businesses and hear from firms that will be impacted by the changes. While the goal is to improve safety by reducing safe driving practices, it is imperative that the Federal Motor Carrier Safety Administration properly balance highway safety with the economic impact on small trucking businesses.

In advance of the testimony, I want to thank all the witnesses who traveled here today for both their participation and insight into this important topic. And with that, I yield back.

Mr. WEST. Thank you, Ranking Member. If the committee members have an opening statement prepared, I ask that they be submitted for the record.

I would like to take a moment to explain the timing lights for you. You will each have 5 minutes to deliver your testimony. The light will start out as green. When you have 1 minute remaining, the light will turn yellow. Finally, at the end of your 5 minutes, it will turn red. I ask that you try to adhere to that time limit.

Our first witness is Mr. Bill Bronrott, who is the Deputy Administrator for the Federal Motor Carrier Safety Administration. Mr. Bronrott began his service as Deputy Administrator in 2010. Prior to that, he served for more than 10 years as a member of the Maryland General Assembly where he was known for his strong advocacy on traffic safety issues.

Appearing with him is Mr. Joseph DeLorenzo with the agency's Office of Enforcement Compliance. He will be on hand to assist with any additional questions members may have. Deputy Administrator Bronrott, thank you for your appearing today. You may now deliver your testimony.

**STATEMENT OF BILL BRONROTT, DEPUTY ADMINISTRATOR,  
FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION; AC-  
COMPANIED BY JOSEPH DeLORENZO, FMCSA'S OFFICE OF  
ENFORCEMENT COMPLIANCE**

Mr. BRONROTT. Thank you very much, Mr. Chairman, and Ranking Member Velázquez and members of the committee. Thank you for this opportunity to discuss the Compliance Safety Accountability program that helps to keep the traveling public safe by raising the bar for commercial truck and bus safety.

Safety is FMCSA's number one priority and CSA is the centerpiece of our rigorous safety compliance and enforcement strategy.

This program is critical to our congressionally mandated mission to save lives by reducing crashes involving commercial vehicles.

Compliance and accountability are the keys to safety, and it is through CSA, the agency and its State safety enforcement partners are able to better identify and address a larger number of motor carriers for safety interventions without placing an undue burden on small businesses.

Our Safety Measurement System collects data on the Nation's half-million active motor carriers, and we have found that the system clearly identifies the 200,000 carriers that are involved in over 90 percent of the crashes on our Nation's roadways. According to an independent analysis by the University of Michigan Transportation Research Institute, SMS is a significant improvement over the agency's previous measurement system.

We know that CSA is working. Last year, under CSA, truck and bus roadside inspection violations decreased by 8 percent and driver violations decreased by 12 percent. This is the largest drop in commercial vehicle and driver safety violation rates in a decade.

CSA is allowing the agency to reap these safety benefits with less interruption to a carrier's business operations. We are keenly aware that 85 percent of commercial vehicle operations registered with FMCSA are small businesses. Our Safety Measurement System has identified nearly the same number of small carriers for intervention as were identified in the previous SafeStat system. In fact, less than 10 percent of small truck companies exceed the intervention threshold in any of the BASICs.

We are carefully listening and responding to feedback from industry, our State partners, and other key stakeholders to ensure we are having the greatest impact on safety while minimizing the effect on a carrier's operation. FMCSA has consolidated all of its publicly available carrier safety performance data into one easily accessible CSA Web site that receives 30 million hits a year. This helps company owners to easily review their safety data and to take action to address any safety deficiencies.

Our DataQs process allows companies to address any potential data inaccuracies. Currently of the 3½ million safety inspections conducted, less than 1 percent of inspections are challenged. Prior to CSA, our agency safety intervention activities primarily focused on compliance reviews, and while compliance reviews are effective tools for changing unsafe operations, they are also labor and time intensive to both the agency and carriers.

In order to strategically deploy the agency's resources and effectively reach more carriers earlier, the agency now utilizes a range of safety intervention tools that get to the root of the cause of the carrier's safety problems. Analysis has shown that these less resource intensive interventions are effective at improving carrier performance.

Finally, next year, early next year, the agency will issue a notice of proposed rulemaking to revise its safety fitness determinations methodology. The rulemaking would propose better integrating roadside inspection data into the carrier's safety fitness determination process.

Mr. Chairman, members of the committee, last year alone, 4,000 people died and 100,000 others were injured in crashes involving



commercial vehicles. If today's an average day, 11 of our fellow Americans won't make it home alive and another 300 will be injured. Every life is precious. One death or disabling injury is one too many. We need all available tools to identify unsafe drivers and companies so that safety deficiencies can be addressed before tragedy strikes. FMCSA is working to protect the traveling public by identifying unsafe truck and bus companies with the highest risk of future crashes.

CSA leverages the findings of roadside safety inspections and investigations that hold carriers accountable to the safety rules of the road and thus far CSA is showing great progress without any new regulations. It is a big step forward in FMCSA's ongoing mission to save lives through early intervention compliance, accountability, and crash reduction.

Mr. Chairman, this concludes my remarks. I would be pleased to answer your questions. Thank you very much.

Mr. WEST. Thank you, Administrator Bronrott. A couple questions I would like to present.

First, your agency used findings from a 2007 violation severity assessment study to develop the SMS methodology. Have you released the results of that study as per the stakeholder request at this time?

Mr. BRONROTT. The severity study?

Mr. WEST. Yes, sir.

Mr. BRONROTT. Let me turn to Mr. DeLorenzo on that.

Mr. DELORENZO. Yes, we have. The results of the violations of the violation severity study are in the CSA docket. There is an open docket for CSA where all of our materials go.

I also think it is important to point out that that study is not the basis of the current violation severity weights that are used in the SMS. There are other documents in there in addition to what is known as the violation severity study that also provide significant background into how those weights were determined.

Mr. WEST. Now, have those been provided?

Mr. DELORENZO. They are in the docket as well, sir.

Mr. WEST. Okay. The second question. There is a small carrier testifying on the second panel whose BASIC score went up a year after initial violations and a number of clean inspections. Is there some, you know, explanation why that would have happened, are there some bugs in the system that need to still be worked out?

Mr. BRONROTT. I think on an individual basis it is hard to say. I think we would want to learn more about that individual carrier's experience and would be glad as always to meet with them and walk through that.

Mr. WEST. Okay. Ranking Member Velázquez.

Ms. VELÁZQUEZ. Thank you, Mr. Chairman. Administrator Bronrott, you stated at a recent Small Business Administration Roundtable with the trucking industry that sometime, and you just mentioned also today that at some point early next year you are going to be proposing, issuing the proposed rule. My question to you is will that proposed rule give small and independent carriers the opportunity to weigh in on CSA Safety Measurement System?

Mr. BRONROTT. Well, as we go through that rulemaking, it will be obviously completely open and we will have an open docket and

open process by which we will be welcoming input from all of industry and all of our stakeholders, and I am sure it will be a very robust, you know, input.

Ms. VELÁZQUEZ. What do you mean by robust input?

Mr. BRONROTT. Well, through any of our rulemaking processes, you know, we will have an open docket and that will allow anybody, any interested party to express their concerns, questions, ideas, on the direction that the NPRM should go. And we look forward to that.

Ms. VELÁZQUEZ. Yeah. My suggestion is that you should provide a vehicle in which not only it is an open docket but interaction around the country with these small operators, right. And if you have better information, the only way that you could have better information is by having this exchange interaction and that will facilitate to have at the end of the road a better rule.

Mr. BRONROTT. We are eager to do that, and we will follow up.

Ms. VELÁZQUEZ. Last year, Wells Fargo Equity Research authored a report that concluded that there was not meaningful statistical relationship between the results in the unsafe driving and fatigue driving BASICS and crash frequency base on a sample of 200 of the largest motor carriers. How did this compare to your agency's own research?

Mr. BRONROTT. Well our—in fact, we did respond to the Wells Fargo report and that, our response is on our Web site and we would also be glad to submit our response for the record here today.

We did not agree with the conclusions of that report. We have repeated studies internally through the Volpe Transportation Center and also externally independently through UMTRI, the University of Michigan Transportation Research Institute, that shows that there is a very, very strong correlation between our SMS BASICS and crash risk. And our sample looked at tens and tens of thousands of carriers, large and small, and we had some issue with the Wells Fargo report that looked at solely 200 large companies.

Ms. VELÁZQUEZ. Okay.

Mr. BRONROTT. So we are very comfortable.

Ms. VELÁZQUEZ. Thank you. And critics claim your new enforcement program places additional burdens on the commercial motor vehicle industry. Some believe it will force out as many as 10 percent of drivers in an effort to avoid detrimental carrier scores.

Is CSA shifting the agency's enforcement resources to disproportionately target small trucking companies?

Mr. BRONROTT. No. We are—again, you know, the overwhelming majority of carriers are small businesses but they make up a very small percentage of those who we find to have the more serious violations that require interventions.

Ms. VELÁZQUEZ. Okay. Okay, thank you very much.

Mr. BRONROTT. Thank you.

Mr. WEST. Thank you, Ranking Member, but I will say that Wells Fargo did come back and conduct an examination with 4,600 carriers and reached the same conclusion.

Mr. Hanna.

Mr. HANNA. None at this point, Mr. Chairman.

Mr. WEST. Ms. Hahn.

Ms. VELÁZQUEZ. Can I ask a question?

Based on what the chairman just stated, did you respond to that second study?

Mr. DELORENZO. We haven't responded to the study. We did look at it and our preliminary analysis does not change our findings. In our response, we looked at over 40,000 carriers, all sizes, and are still very comfortable of the relationship between the unsafe driving BASIC and the fatigue driving BASIC and crash risk.

Ms. VELÁZQUEZ. Thank you, Mr. Chairman, for yielding.

Mr. WEST. Thank you.

Ms. Hahn.

Ms. HAHN. Thank you, Chairman West, Ranking Member Velázquez. I think this is a very interesting hearing. This is a subject that is very near and dear to my heart, and that is our trucking industry. Particularly I have had a lot of interest in our owner operator small business affairs. I represented the Port of Los Angeles in Los Angeles for 10 years when I was on the city council, so I did a lot of work in that respect.

You know, we passed the transportation bill. We actually have for the first time national freight policy language in our transportation bill. I have founded a bipartisan Port Caucus, Chairman West is a part of that caucus, because we think there is tremendous connection, of course, between our ports in this country, between our trucks, national freight policy and our economy and jobs. So we really want to take a look at all the aspects of this industry. I think there is a lot of variables that go into, unfortunately, crashes and fatalities involving our trucking industry. I am a big advocate for special truck lanes on freeways. I found my smaller owner-operator, well, all of them would come to me and say they don't really like driving on the roads with the commuters either. They don't think we know how to drive. And many times, as you know, a lane change by a small car, you know, can cause a massive jackknife, and by the way, which then in Los Angeles of course can clog a freeway for 4 to 7 hours, really slowing down commerce. So I, of course, want to find all possible reasons we can prevent these fatalities.

I also was a big advocate of moving cargo off peak hours in Los Angeles and championed a program which was the first in the country, I hope some of my other port folks will look at moving cargo off peak so that the truck drivers can move that cargo with an incentive off peak hours so they don't have to be on the same lanes with those who are trying to get to work in the morning or get home in the evening.

But, two, I want to talk to you about a program that you mentioned, Mr. Bronrott, in your written testimony. You talked about you know crash weighting, identifying crashes for which a carrier had greater responsibility. I am curious to know if you could tell us how are those reviews conducted, what kind of experience do those folks have that review those crashes, and how they make that determination of who was at fault, and more importantly, are we gathering data on how do we prevent these kinds of crashes in the future?

Mr. BRONROTT. Great questions.

Well, first of all, currently we do not do crash weighting, but what we do know is that there is a very strong correlation between crashes and in predicting future crashes. We are now working through a process by which we are looking at crash weighting as a way to more finely tune CSA and what we our—Motor Carrier Safety Advisory Committee looked at the issue of crash weighting this year and there really was no agreement among this very broadly based committee as to what direction that we should go with some ideas that were put on the table. There was no consensus.

So it was essentially thrown back to us. And so we are now in the process where we are going to have to thoroughly study this because it is very important that we get it right. And so we are planning on releasing in July of 2013 our report. We are going to take this next year to thoroughly turn this inside out, and we will report back to you and to the safety and trucking community what we have found, and then from there we will know what our path forward is in the whole area of crash weighting.

Ms. HAHN. Thank you. And again, and I appreciate this hearing, and I appreciate us kind of getting to the bottom of this. I think the trucking industry is really at the backbone really of the goods movement industry in this country, and I know for a fact a lot of these independent owner-operators, they have a tough row to hoe. I mean, these guys, particularly in areas like Los Angeles where the congestion is so bad, they get paid by the load, they don't get paid by the hour. So sometimes they can make a one round trip to the port of Los Angeles to either pick up or drop off, and many of them talk about how they are not earning the kind of decent wages to actually make a real living. So we want to do whatever we can to support them but we also of course don't want to compromise at all on the public safety as we embrace this industry.

Thank you.

Mr. WEST. Thank you, Ms. Hahn.

Mr. Mulvaney.

Mr. MULVANEY. Thank you, Mr. Chairman. Mr. Deputy Administrator, help me. This is a new industry for me, so help me understand the process by which you all establish these scorecards, these BASICS, the scores that you give to the various carriers. Walk me through a typical process.

Mr. BRONROTT. Well, the previous measurement that we used was made up of four categories that were far more general than the CSA program. And so we have come up with seven categories within which we can look at a carrier's and driver safety performance and that gives us a far clearer, more granular picture of what is going on out there so that we can make decisions about who we should, you know, intervene with and, you know, before a tragedy occurs.

Mr. MULVANEY. What are the seven categories?

Mr. BRONROTT. Well, they include the fatigue and compliance with hours of service. I have got the list here if you want. Joe, if you want to run down the—

Mr. DELORENZO. I probably won't be able to come up with all seven just because you are asking me. Unsafe driving, fatigue driv-

ing, controlled substances, there is the crash indicator, vehicle maintenance. How many did I get?

Mr. MULVANEY. Four or five. Unsafe driving. What do I have to do to get a bad mark on unsafe driving?

Mr. DELORENZO. Essentially what occurs, what each of the BASICs is it is comprised of violations that are found on the roadside or through our investigative process. So the violations that are found on the roadside are uploaded by our State enforcement partners. They go up into our system, and they are then associated with that carrier in the appropriate category. So the example you used is an unsafe driving. So if a carrier is pulled over for a speeding violation, that would get loaded up and associated with that BASIC. Carriers are then—

Mr. MULVANEY. Hold on a second. Just get the ticket written or actually get convicted?

Mr. DELORENZO. No. An inspection, a State inspection report completed. A State inspection process and a ticket written or citation are two completely separate processes. So this SMS consists of violations on inspection reports.

Mr. MULVANEY. And how do I, if I get a, whatever rating I get, how do I get it, how do I improve my rating in the future? What do I have to do in order to lower my score? What steps do I have to take to accomplish that?

Mr. DELORENZO. In order to lower your score, it would be the result of additional clean inspections. So the violations are, we score on a 24 month period. So violations drop off after that time period is up, they get weighted lower as time goes on and additional clean inspections because you are compared on a per inspection basis. So clean inspection reports would then also help you to lower your score.

Mr. MULVANEY. If I have got a bad driver who has had two or three speeding things, let us say, that lowers or that raises my score and I fire that driver I move him some place else, does that help my score or not?

Mr. DELORENZO. It does not.

Mr. MULVANEY. And why not?

Mr. DELORENZO. Because those violations stay in the system associated with your company as a look at your overall safety management practices. Over time they will decrease and clean inspections by your other drivers will also help to lower your score.

Mr. MULVANEY. Wouldn't firing an unsafe driver be a safe practice? Wouldn't that be what you want me to do?

Mr. DELORENZO. Yes, it would.

Mr. MULVANEY. But I wouldn't get credit for it.

Mr. DELORENZO. Not until the time period passes, correct.

Mr. MULVANEY. Okay. Interesting.

Deputy Administrator Bronrott, you mentioned that the previous system that was four different categories, how did that one, why did you all get rid of that?

Mr. BRONROTT. Well, again, the decision was that it was, there were broader categories and that we could have a, that it was time to look at more specific areas where we could have some intervention if need be.

Mr. MULVANEY. Did you use any of the same categories from the old system in the new system?

Mr. BRONROTT. We did.

Mr. MULVANEY. And the same data?

Mr. BRONROTT. Well, I think it is all the—well, Joe is one of the—

Mr. DELORENZO. The data used in the current SMS is more comprehensive than the data that was used in SafeStat. When we went from 4 to 7, we also made another important change which was under the old system we looked at only those violations that were serious enough to be considered out of service violations. The current system, SMS, uses all violation data in the system.

Mr. MULVANEY. If I get pulled over, if I am a trucker in South Carolina and I get pulled over by my local enforcement folks and they write me up for something, and I later challenge that, does that, how do you all treat that on my scoring, and I win. Let's say they cited me for unsafe movement or some maintenance violation, and I convinced them that they were wrong in their initial assessment, how does that impact my score?

Mr. BRONROTT. Well, we do have a process through which you can challenge it, and we work with each of the States in a process known as DataQs. So you can go to the respective State where the violation occurred, and you can challenge that. And through that process, it is either dismissed or not.

Mr. MULVANEY. And the last question. But if it has been, if I have convinced the State folks that I was not in the wrong, does it automatically come off my rating or not?

Mr. BRONROTT. It will.

Mr. MULVANEY. Okay. Thank you, gentleman. I apologize for going over, Mr. Chairman.

Chairman GRAVES [presiding]. Mr. Chabot.

Mr. CHABOT. Thank you, Mr. Chairman. Yeah, just a couple questions. I assume that you have had some feedback, some criticism, some concern from people in the trucking industry, is that correct?

Mr. BRONROTT. Well, we have had questions, we have had concerns, and we have also kept the phone lines open. We built a big table around which we have allowed those voices to be heard. So we have heard them, and we welcome whatever questions, concerns that are out there.

Mr. CHABOT. And what are the nature of the concerns that you have heard from folks in the industry?

Mr. BRONROTT. Well, they are varied, and I won't try to characterize.

Mr. CHABOT. That is what I am asking you to do. What are some of the questions that people have raised where they have said, well, here is something we don't think is fair or that we think is very tough for us to meet or is unfair or whatever. I mean, what types of things. That is what I am asking you.

Mr. BRONROTT. Well, a number of things. One thing is you know, the issue of the crash weighting. It has been one major question that has come up.

Mr. CHABOT. You said crash weighting?

Mr. BRONROTT. Um-hmm.

Mr. CHABOT. Does that mean, what does that mean exactly? If you have an accident, how heavily that weighs against you, and is that what you are talking about or something else?

Mr. BRONROTT. Yeah, I mean that is, that is right. It is. So we are looking at—you know, currently we just look at involvement without, you know, looking at you know faults and that is not part of the scoring or rating, that is not part of what we do.

Mr. CHABOT. Let me stop you there if I can to make sure if I heard you right. You said currently you just take into consideration the fact that an accident happened and that is counted against you. It doesn't matter whose fault it was? Is that what you said?

Mr. BRONROTT. Well, it is used as an indicator because we know from repeated studies, this is something that is very firm in the work that we have done over the course of the years, even prior to CSA with the earlier measurement system, that there is a very strong positive correlation between crash involvement and the chance of a future crash. We take it seriously. But we are, you know, looking at this issue of crash weighting, as I mentioned earlier, about this process that we are going through to, you know, to study this and to report back in a year on a path forward on that.

Mr. CHABOT. But again, just to make sure that I understand what you are saying again, the fact that it doesn't matter whose fault it was. It is still counted. I am a truck driver, and I stop at a traffic light, and somebody is not paying attention behind me or perhaps they are intoxicated and they crash into the back of me, and I have done nothing wrong. I was stopping at a red light. You are saying that that would be weighted against me?

Mr. BRONROTT. Well, it—

Mr. CHABOT. Well, yes or no.

Mr. BRONROTT. Let me defer to Mr. DeLorenzo just to be clear.

Mr. DELORENZO. Yes, it is.

Mr. CHABOT. Okay. There is the answer, yes. And if it happened a second time I was at another traffic light and I hadn't done anything wrong and I am stopped there paying attention but somebody else is drunk behind me in another vehicle and they slam into the back of me, now I have had a second offense that I am held responsible for; is that correct? Yes or no.

Mr. DELORENZO. Yes.

Mr. CHABOT. Okay. And that is an example of some of the concern that you have had raised in the trucking community because, that is the first one that you raised is the accident weighting so, or weighing. Are there some other things that they have raised that they are concerned about, and I am assuming there are. And what would be some of the others. I have only got 51 seconds here.

Mr. BRONROTT. Joe, do you have anything to add?

Mr. DELORENZO. The other concerns and where we spend a lot of our time is on data quality and data sufficiency. So I mean there are always questions with the amount of data that we are always dealing with as to what is the quality of the data and that is when Mr. Bronrott in his remarks you know mentioned the DataQ system that we have available.

Mr. CHABOT. Now, does data quality mean that they are not keeping adequate records under your standards; is that what you are meaning?

Mr. DELORENZO. No data quality meaning the quality of the data in our system. So the quality of the data that is uploaded from the States into our system that is used in determining their SMS scores, which is again—

Mr. CHABOT. They are concerned about that particular issue?

Mr. DELORENZO. Yes.

Mr. CHABOT. Okay.

Does overweight vehicles at all, any history of having—would that be counted against them?

Mr. DELORENZO. Size and weight is not included.

Mr. CHABOT. That is not included, okay. Thank you very much.

Chairman GRAVES. Mr. West.

Mr. WEST. I already asked questions.

Chairman GRAVES. Mr. Landry.

Mr. LANDRY. How can you hold somebody accountable for something that is not their fault? Would you be willing to say, you know what, Congress all these studies that we embark upon and all of these crazy policies and regulations that we premise on these studies, if we can't, if we don't show proof that they work, would you be willing to resign? I mean, why can you all hold the American citizen accountable but yet we can't hold y'all accountable. You see, I mean it is patently unfair for you to weight someone's record, to tarnish someone's record when it is not their fault? We have a court system that is designed to weigh that.

Let me ask you a question. How do you feel about onboard data recorders being mandated by the Federal Government? Do you support that?

Mr. BRONROTT. Well, the agency does.

Mr. LANDRY. Okay. Okay. Well, let me ask you a question. You work for the President of the United States. Is that not correct?

Mr. BRONROTT. Correct.

Mr. LANDRY. So he is your boss.

Mr. BRONROTT. Correct.

Mr. LANDRY. See, I am used to the business world. You know the President of a company? That is who I report to. I usually, if he puts out an edict or a policy, I normally, I would think as an employee I would follow that. Do you know that the President has singled out on board recorders as costing small business over \$2 billion to implement and that he believes that they should not have been implemented. Did you not get that memo that he sent to the Speaker?

Mr. BRONROTT. Well, I am familiar with the numbers and I also know that—

Mr. LANDRY. Well, you are familiar with his position? Is his position that he supports it or he doesn't support it?

Mr. BRONROTT. He does.

Mr. LANDRY. He does support it. So what he spent to the Speaker is basically a lie?

Mr. BRONROTT. The OMB and our agency made it clear that there is a net gain to industry of over \$2 billion a year by the implementation of EOBRs.

Mr. LANDRY. A net gain. It is going to cost the industry, according to the President, \$2 billion. And 90 percent of that industry are small businesses. Now the big guys, they like it. Okay. Because



when they—they implement it already, because their fleets are so large that that is a better way to manage those fleets. And of course when you implement it on the little guy, okay, it drives them out of business and the big guy gets bigger, and I am sick and tired of that over here. Because what happens is big corporations come up here, they convince you all to do something that they want to do. If they want those on board recorders that is their business. But don't force the little guy out there who is struggling to make ends meet.

Ms. VELÁZQUEZ. Would the gentleman yield for a minute?

Mr. LANDRY. The gentleman will yield.

Ms. VELÁZQUEZ. Mr. Bronrott, if I am driving my car and I am at a stop sign and another car comes in and hit me, will the insurance company score that against me in terms of my premium?

Mr. BRONROTT. As a passenger vehicle driver or as a truck driver? To be honest, I don't know the answer with respect to—

Ms. VELÁZQUEZ. Well, I do know because I was driving but what I am saying is that the private sector, the insurance company will factor that in. There is not much difference.

Mr. LANDRY. Reclaiming my time. I would disagree with the fact—first of all, the insurance companies are private contractors. Okay. That is a private contract between an individual and another company. The government is not involved in that contract. And if certain insurance companies penalize you when you do nothing wrong then you should seek out an insurance company that doesn't penalize you for doing so. I don't believe, because I've had accidents before and those accidents that were not my fault, my insurance company did not penalize me for that. Sure they were reported but they did not penalize me for somebody rear ending me. I would say that your insurance company is getting away with murder.

But going back to these onboard recorders, I don't understand how the President gets up, gets up in front of the national media and says to the American people that he is for small businesses and that he is for doing away with regulations that burden small businesses and that you, as his representative, you as his mouthpiece, come here and tell us that you are willing and promote a regulation that imposes a \$2 billion cost on small businesses in this country. Can you explain that to me? I mean, because it doesn't add up where I come from.

Mr. BRONROTT. Four thousand people die every year on our highways. Our mission, congressionally mandated mission is to stop it. A 100,000 people are injured every year. Our charge is safety. And EOBRs will help save hundreds of lives a year. EOBRs will also have a net savings to industry in the billions.

Mr. LANDRY. So you are willing, you are willing to compromise all of these small businesses, the American dream out there; you can't find a better way to save 4,000 people a year, for 4,000 people; is that right? Four thousand people we're going to spend \$2 billion. Or 500,000. Yeah. That is the cost of 500,000 per person. Maybe we should pay those persons not to get on the road.

I mean look, I am trying to understand because at some point there becomes a balance between the industry and the safety, okay, and we have seen over the last 20 years that you all have done a terrible job of doing—not just you but this Federal Government has

done it. That is why we have this committee. Because it is breaking the small businesses out there. And so I don't understand when the boss says whoa, I don't like this idea, you just go plowing right ahead, say don't worry, boss, I think you are wrong. Or maybe the boss is telling the American people one thing and you something else. What is it? Is he telling you to go ahead with it? Are you getting a mandate from the White House that you should go ahead; basically the letter that he sent to the Speaker of the House is disingenuous?

Mr. BRONROTT. Well, with respect to——

Mr. LANDRY. That is a yes or no.

Mr. BRONROTT. I am not sure there is a yes or no.

Mr. LANDRY. Mr. Chairman, I am out of time.

Chairman GRAVES. Ms. Beutler.

Ms. HERRERA BEUTLER. Thank you, Mr. Chairman, and I guess I would like to hear because this is an issue that is important to me. You know, we all care about safety, right? This isn't a question of whether or not we care about safety. I don't think safety and our small business owners are mutually exclusive. I mean to assume that is irrational.

One of the things I would like to know for sure on this topic is, is there a proven, because so from what I have seen, and it largely is you know a small versus large issue, you know, for a small two person independent owner operator type driver who hauls logs on a—in southwest Washington State, on a—inconsistent basis, right, whenever we get a tree sale, when there is a chance they bid a job, they get it or they don't. It doesn't happen consistently. It is not like a major freight mobility company that is constantly on the road. For them to put this type of equipment into a truck doesn't seem as necessary, right, because if there is one or two people you are in an owner operator type situation, I don't think they are going to have a hard time communicating with each other about where they are, and what time they are leaving. Keeping up with the rules and the regs of the road, so to speak.

So I, too, would like to understand how the President calls this a \$2 billion mandate on small businesses who are the backbone of our economy, and we need jobs in our neck of the woods, we are double digit unemployment, right, how the President calls this a \$2 billion mandate and yet you are telling me it is \$2 billion plus. Please explain that briefly.

Mr. BRONROTT. Well, every rule goes through an analysis of the costs of, you know, investing and then, you know, the net gains, and that is where that ends up. But you know, fatigue is a leading cause of crashes, and far too many of them involving death and injury. It is a serious issue.

Ms. HERRERA BEUTLER. And I get that. How does that not jive, though? How is the President saying one thing and I hear you saying something else?

Mr. BRONROTT. I see.

Ms. HERRERA BEUTLER. That is what I am interested in because that is a major miscommunication.

Mr. BRONROTT. Well, you know, we are working with, we have worked with small business on so many aspects of our rules and

regs and our, you know, work with OOIDA over the years. They are part of, they are a key part of our safety advisory committee.

Ms. HERRERA BEUTLER. And how many of the OOIDA recommendations on this issue have you taken into account when you were pushing this rule?

Mr. BRONROTT. I don't know.

Ms. HERRERA BEUTLER. Any? A couple? A majority? A minority?

Mr. BRONROTT. I really don't know.

Ms. HERRERA BEUTLER. Okay. Okay. Thank you, Mr. Chairman. I yield back.

Chairman GRAVES. Mr. Hanna.

Mr. HANNA. Four thousand lives. You are never going to get it to zero. Nobody wants any—I remember the Director of the EPA saying that their job wasn't to look at the money, the cost expense, the difficulties, the loss of jobs and opportunity, that it was only to look at the environment. I can understand that. I don't agree with it, but I understand it. Do you feel the same way in your business?

Mr. BRONROTT. It is not how we do it. We must consider economic impacts as part of the rulemaking process.

Mr. HANNA. Right. But I mean, when you do that, does that tell me that you automatically if something costs more than it saves, that that is the direction you go, or is it more subjective than that?

Mr. BRONROTT. I don't know.

Mr. HANNA. Shouldn't you know that? I mean, it says director there or Deputy Administrator. Wouldn't you know if that is such a vital part of what you do is burdening businesses with additional costs which may or may not be reasonable, wouldn't you think that that would be the ultimate thing that you would know especially in this environment? Respectfully.

Mr. BRONROTT. Well, our agency is about safety and that is what we focus on. That is what our 1,100 employees wake up every morning committed with great passion to do.

Mr. HANNA. Excuse me. You just said that you look at both sides and you make a decision, but apparently you don't. It is only about safety, which you know, you could say that to me and I don't know that I would have a retort necessarily. So it isn't an equation that you arrived at that weighs the cost-benefits. It is all about safety all the time?

Mr. BRONROTT. Well, we must calculate what the costs are.

Mr. HANNA. When was the last time that you looked at a cost that was greater than the rule you were about to enact?

Mr. BRONROTT. I can't say.

Mr. HANNA. So you never have. There has never been anything more important or balanced towards business over safety necessarily that you can think of?

Mr. BRONROTT. Right.

Mr. HANNA. Mr. Chairman, I am set. I would like to contribute my time to anybody that would like it.

Mr. LANDRY. I just, again, want to give you an opportunity to answer the question of who, of what position, is this administration, as a representative of the President of the United States, do you stand 100 percent behind small businesses and do you take up the

President on his challenge to eliminate burdensome regulations that cost billions of dollars?

Mr. BRONROTT. Yes.

Mr. LANDRY. Okay. So do I also have your commitment that we are not going to continue to move forward with onboard recorders for 90 percent of an industry that doesn't want them or doesn't need them and it is going to cost more, it is going to be an additional cost for them?

Mr. BRONROTT. Well, you know, the EOBRs are cost effective and we are——

Mr. LANDRY. You just said, you can't answer, that is an oxymoron. You are saying one thing but you are meaning another. You are saying, oh, yeah, don't worry, small businesses, we are with you all. But on the same token you are telling them here is the bill. Sell your truck maybe to one of the big majors, six of the big majors; 90 percent of this industry is small businesses. You are going to impose a \$2 billion regulation on the backs of an industry that is made up of 90 percent small business owners? Is that what you are going to do?

Mr. BRONROTT. It is not how we see it.

Mr. LANDRY. But that is what you are going to. It might not be how you see it. Look, I like to deal with facts. Is it a fact it is going to cost those small businesses \$2 billion, is that a fact?

Ms. VELÁZQUEZ. I would like to ask the gentleman what is that \$2 billion tax that you are talking about? Where is that from?

Mr. LANDRY. Well, the President of the United States sent to the Speaker of the House a list of preliminary cost estimates for regulations that he deemed he was going to look into and basically get rid of. And part of that list was these electronic onboard recorders and hours of service supporting documents, and he has, this has come from the White House, \$2 billion.

Ms. VELÁZQUEZ. Well, at least he is doing that is proactive. When it comes to rules and regulations, the Bush administration, one of the highest number of regulations——

Mr. LANDRY. The Bush administration is gone. I am trying to let the President. Look, I agree with him. I agree with him. I am with him. Very seldom do me and the President see eye to eye but I am with him on this. His problem is the guy who works for him is not. Can you, I mean, can you hold him accountable?

Ms. VELÁZQUEZ. Well, you know what? Come to my district where HIE's bus company got into a crash in the Bronx and 16 people were killed. Ask the Department of Labor how, how, how much is worth one person who is killed? Please, give me a break.

Mr. LANDRY. Well, yeah. That is fine if that is the way you feel. But make sure you tell all of those small businesses out there, the little guy out there that you are not really for them.

Ms. VELÁZQUEZ. It is not about it. It is about creating a balanced approach and providing a mechanism where small businesses had the opportunity to come before them and express and provide their input.

Mr. LANDRY. But with all due respect, the other side of the aisle claims to be the party of the little guy. We sit here in this committee every day with all due respect and claim when we go back to our districts that we are for the little guy. And the President

gets up there and he gets on prime time and he says that. But you know what? The actions don't match the rhetoric. That is the only—look, if you don't want to be with the little guy, don't be with him, but just be honest. That is all.

Chairman GRAVES. With that I have one quick question which, talking about this crash accountability process study which you cited I think just briefly a second ago, that was promised in 2010. That has been 2 years ago. Do you have any intention to release those findings or are you going to release those findings?

Mr. BRONROTT. Well, we are. First of all, thank you very much for the chance to testify before you. I thank you for that question. I explained earlier that we presented, you know, the proposal to our advisory committee, our Safety Advisory Committee and there was no consensus there. And so it was brought back to us to determine next steps. And so we have decided that we are going to take a thorough look at it. We are going to study it. We are going to report back in July of 2013 as to a path forward, and at that point we will be able to report back to you.

Chairman GRAVES. So you are just starting the process now?

Mr. BRONROTT. Well, we are going to, based on what we heard back from our advisory committee we are taking all of that in and starting that process, yes.

Chairman GRAVES. Okay. So it will be 3 years to come to that, whatever conclusion it is?

Mr. BRONROTT. Well, I can't put a date on it but we are looking at it.

Chairman GRAVES. It was 2 years from now. Thank you, Deputy Administrator. I appreciate you being here. We will seat the second panel, please. Have the second panel come forward, please.

Mr. BRONROTT. Appreciate it very much. Thank you all.

Chairman GRAVES. Bring the hearing back to order, and I am with our second panel of witnesses. We appreciate all of you being here. We appreciate all of you coming in. Some of you come from a ways away, and we greatly appreciate that and again we look forward to hearing the testimony.

Our first witness is going to be Mr. Daniel Miranda, CEO of Hit Em Hard Transportation, which is a small trucking firm located in Miranda, California. Mr. Miranda has been in business for more than a decade. Prior to starting his own trucking company, he also served in a number of law enforcement agencies in California. He is going to be testifying today on behalf of the Owner-Operator Independent Drivers Association. Mr. Miranda, we appreciate you being here.

**STATEMENTS OF DANIEL A. MIRANDA, CEO, HIT EM HARD TRANSPORTATION, ELVERTA, CALIFORNIA, ON BEHALF OF THE OWNER-OPERATOR INDEPENDENT DRIVERS ASSOCIATION; JEFF TUCKER, CEO, TUCKER COMPANY WORLDWIDE, CHERRY HILL, NJ; DR. MICHAEL BELZER, PH.D., ASSOCIATE PROFESSOR, DEPARTMENT OF ECONOMICS, WAYNE STATE UNIVERSITY, DETROIT, MI; AND ANTHONY GALLO, SENIOR ANALYST, WELLS FARGO SECURITIES, LLC, BALTIMORE, MD**

**STATEMENT OF DANIEL A. MIRANDA**

Mr. MIRANDA. Thank you, Chairman Graves. Good afternoon. My name is Daniel Miranda, and I am from Elverta, California. I have been a professional truck driver for over a decade, and since 2010 I have operated my own small business trucking company with two drivers. Prior to becoming a truck driver, I served as a police officer. I am also a member of the Owner-Operator Independent Drivers Association, commonly known as OOIDA.

The majority of trucking in this country is small business, as 93 percent of our Nation's motor carriers own 20 or fewer trucks.

Today, I am going to talk to you about my experience with the Federal Motor Carrier Safety Administration's Compliance, Safety and Accountability program, commonly known as CSA or CSA 2010. I believe my experience is similar to others in the trucking industry, particularly little guys like me, and point to the oppressive and punitive nature of CSA in its current form.

There are three overarching problems with CSA. The system lacks fairness and accuracy, unfair arbitrary severity of weights for violations, and the failure of CSA to account for whether a truck driver is actually at fault for an accident reported in the CSA.

In short, CSA, though well intentioned, is today a program with flaws that have wide-reaching implications for motor carriers, especially small carriers like me.

How does this system single out small business? FMCSA urges shippers and brokers to use carriers that have been inspected versus those who have not been. And the shipping community feels they will be liable if they do not use carriers with positive CSA ratings, something that only happens when a carrier undergoes a lot of clean inspections.

Small carriers are less likely to see this happen to them, especially when compared to a large carrier with hundreds or thousands of trucks. Once a small carrier gets into the system, the only way to stay relevant is by receiving completely clean inspections. But these inspections are highly subjective. Law enforcement, as I know full well, can be overzealous at times, and not understanding. The result for small carriers is that just a few minor violations can send your score skyrocketing, making you untouchable to shippers and brokers because they see you as a risk, even though a driver or carrier may have millions of accident-free driving miles.

This is a reality that I am still living through firsthand as a small trucker. Last May, one of my drivers had a series of log book violations around how he was characterizing his time, plus a minor violation regarding reflective tape on his trailer. Regardless of the merits of these violations I took remedial action with this driver,

requiring him to attend additional training on hours of service and how to correctly record the duty status.

Knowing the negative impacts that these violations would have on my company's score with CSA and the ability of my business to respond, I decided to challenge one of them under the only procedure FMCSA currently has, which is the DataQ system. The problem with the DataQ system is that the decision on whether or not the violation should be overturned more often than not rests in the hands of the very same police officer that recorded the violation, even when a citation stemming from the violation is overturned by a court of law. It works the same way if you are issued just a warning. In the CSA system, that is still a violation, with the original officer as judge, juror, and executioner.

I also reached out to the FMCSA and asked them what I could do to improve my score under CSA. They told me that I needed to obtain more clean inspections. So I did that, showing that we are a compliant company and that we fixed whatever problems may have existed before. However, my score actually went up, the exact opposite result of what should have happened. This is a terrible message to send to small businesses, that the survival of their business is beholden to a computer system that is clearly out of touch with reality.

This lack of reality continues under other parts of CSA. A driver who is cited for failing to sign his daily vehicle inspection report sometimes totally unrelated to fatigue or safety is assigned a severity weight of 4, only slightly lower than a violation for an improper lane change while driving, something that is clearly a safety issue. There is no crash fault indicator under CSA, meaning that one truck involved in an accident looks like any other.

What does this mean in real life? A fellow small truck driver was hit by multiple vehicles as part of a large accident. Despite the fact that the trucker stopped his truck and did not hit anyone, under the CSA, the seven fatalities and 26 injuries are still listed in his record with no notation about what happened. And how does a system like that help law enforcement focus on safety? And how can a trucker view it as anything more than a tool for punishment?

One final comment on how today's CSA hurts small business. I spoke earlier about how inspections generate scores. But under some categories with CSA, especially the one dealing with driver fatigue, you also must have a violation to generate a score. If a carrier has no violations of hours of service, they don't have a score. Yet brokers and shippers are told to only look for carriers with scores. With many small carriers not having scores because they do not have violations, they are often out in the cold while the larger carriers with violations get the load simply because they have a score.

Mr. Chairman Graves, I appreciate the time and the ability that I have had to come here and testify before you, sir.

Chairman GRAVES. Thank you very much. Our next witness is Anthony Gallo. He serves as the Managing Director and Senior Equity Research Analyst at Wells Fargo Securities. His testimony is going to cover recent reports by his firm that raise questions regarding the accuracy of the new safety management system and its potential to misidentify carriers as unsafe.

Mr. Gallo, thank you for being here.

#### STATEMENT OF ANTHONY GALLO

Mr. GALLO. Good afternoon, Chairman Graves, Ranking Member Velázquez, and members of the committee. As you mentioned, I am Anthony Gallo. I am honored to be here today. I am a Managing Director and the Senior Equity Research Analyst covering transportation at Wells Fargo Securities. I have been covering the transportation industry since the early 1990s. I have held other roles at Wells Fargo and its predecessors, including Co-Head of Equity Research.

My research is largely conducted in the context of providing investment ideas to institutional investors such as pension funds and mutual funds. I publish fundamental research on the trucking, railroad, and parcel segments. My written testimony includes a list of companies that I cover as well as important disclosures and an attestation that my research reflects my personal views about the subjects, securities, or issuers discussed. The views I express today are my own and not the views of Wells Fargo.

We published three reports on CSA; the first in March of 2011 and the most recent report on July 2 of this year. In the normal course of our research we examined regulatory issues that pertain to our companies and the industry. We are often trying to determine how a specific regulation will affect the economics and competitive framework of our companies. Truck safety, small business, and statistics are areas that I am expected to be knowledgeable about as an analyst covering this space.

In our first report, we examined CSA results for roughly the two dozen publicly traded trucking companies. In our second report, we touched on 200 of the largest carriers. And our most recent report covered 4,600 trucking companies. Of the 4,600 trucking companies, 82 percent had fewer than 250 trucks; 60 percent had fewer than 100 trucks. Each carrier in our data set had at least 50 inspections.

In each of our reports we discussed the lack of any meaningful statistical relationship between CSA BASIC scores and accident rates. In each of our studies, we ran regression analysis of BASIC scores against accident rates. Our analysis led us to conclude that the criteria used to judge motor carrier safety did not coincide with the actual crash rates. Additionally we highlighted areas that we thought were problematic with the program, including unexplainable variances in inspection rates and the inconsistencies of enforcement protocols by States. In our most recent report we dealt in the inequities of crash reporting.

Our second report published on November 4, 2011, titled "Good Intentions, Unclear Outcomes" seemed to generate quite a buzz. On March 16 of this year the FMCSA actually published a formal response to our November report. In short, they disagreed with our findings. We were flattered that a well respected organization such as the FMCSA responded to our work. And we took very seriously the additional perspectives that they provided. We looked deeply into the FMCSA responses. We sought advice and perspective from industry experts, and we subsequently expanded our data set to



the 4,600 motor carriers. We published our findings on July 2. We titled the report "CSA: Another Look With Similar Conclusions."

Our most recent 22-page report has been submitted as part of our written testimony. I offer the following summary conclusions from that report:

First, we did not find a meaningful statistical relationship between the assigned BASIC scores for unsafe driving, fatigue driving, driver fitness, or vehicle maintenance when compared against actual accident rates either measured for number of power units or miles driven.

Second, we found unexplainable variances in enforcement by States. For example, in our data set, Indiana represented over 35 percent of all BASIC violations for exceeding the speed limit by one to five miles an hour. We also learned that variances in crash inspection reporting are such that the FMCSA actually rates States good, fair, or poor based on "completeness, timeliness, accuracy, and consistency" of reporting in these important areas.

Third, we found a wide variety of inspection rates by carriers. The one pattern we did observe was that small carriers with 25 to 49 trucks were inspected at two to three times the frequency of large carriers.

In concluding my comments, I would like to offer the following observations that I hope you find helpful in your assessment:

First, CSA is a Federal program enforced at the State level, but inspection and enforcement protocols vary in unexplainable ways. Small carriers are likely to frequent a fewer number of States than larger carriers, thereby making them exposed to the vagaries of any one State.

Secondly, small carriers appear to be inspected at a greater frequency. In addition to lost productivity, two out of every three inspections result in some violation, creating a vicious cycle for the carrier.

Lastly, the trucking customers are struggling with what to do with the CSA methodologies. They tell us that they are unsure of their risks when FMCSA rates a carrier satisfactory but there may be a BASIC threshold violation for, say, vehicle maintenance.

We ask, is vehicle maintenance BASIC enough of a reason to drop a carrier? If a shipper establishes carrier protocols that incorporate CSA, how should they handle carriers with no BASIC scores and are not scored in all the BASICs? Large carriers are using their favorable CSA scores in soliciting business. Further, it is often difficult to replace a large carrier on short notice. Conversely, it may be easy to replace a small carrier who temporarily moves beyond a threshold but whose violations linger for 24 months or longer. This could cause a loss of business at a small carrier who could otherwise be safe.

Thank you for your time. I would be happy to answer any questions.

Chairman GRAVES. Thank you, Mr. Gallo.

Our next witness is Jeff Tucker. Mr. Tucker is the CEO of Tucker Worldwide, a third generation small family run freight brokerage business located in Cherry Hill, New Jersey. He is also a founding member of the Transportation Intermediaries Association and a member of the American Trucking Association, where he

serves on the organization's Government Freight Committee. Thank you for being here, Mr. Tucker.

#### **STATEMENT OF JEFF TUCKER**

Mr. TUCKER. Chairman Graves, Ranking Member Velázquez, and members of the Small Business Committee, thank you for the invitation to testify.

As a transportation brokerage, I own no trucks. I hire thousands. Others have explained how CSA works and doesn't. So my focus today is going to be on the dangerous hiring, negligent hiring risks worsened by FMCSA's mischaracterizations and misguided promotion of the CSA program.

Partly due to flaws in CSA, but primarily due to FMCSA's recent actions and statements, the agency has created a heavy burden on American business. For the record, TIA and my company support FMCSA and safety and we are willing and even eager to spend money on safety. It is important to us and it matters. For example, in the past few years, I added a lawyer to my staff. I have added a director of risk management to my staff. And I voluntarily adopted ISO 9000 standards so that my procedures can be followed and audited, all due to this liability that I am facing. I have turned away a majority of carriers who wish to do business with me. Not sure why yet.

Like others today, I can tell you that today's system does not promote safety. Instead, it imposes a tremendous burden on brokers, carriers, U.S. manufacturers, and small business. Why? Because CSA is a relative system. It is graded on a curve. It is not a safety rating, but it is designed to prioritize FMCSA intervention. No study published has shown that high BASIC scores predict future crash. "Relative" means that if the agency decided it could intervene with 25 carriers per year and there were only 100 carriers, 25 would have a high score, even if they were safe and compliant.

We don't doubt at all that CSA has helped prioritize FMCSA and law enforcement resources. But when CSA is used for purposes other than for law enforcement, CSA has serious flaws and harms small business. Despite these many flaws, FMCSA has chosen to plow ahead and market it for something it was not designed, as a carrier selection tool for shippers, brokers, and insurers. The program FMCSA uses to choose which carriers to send letters to or schedule audits of is now being marketed by the agency to shippers and brokers for carrier selection without facts, data, science, or direction from FMCSA telling us specifically what carriers or what CSA score not to use.

FMCSA has imposed tremendous new risk and cost on small business. My company happily participates in promoting safety. We spend good money on it. That is not the issue. The issue is, FMCSA has created a strawman and by their actions have forced all the businesses who hire motor carriers to chase the strawman in hopes of improving safety. This isn't safety. This is waste.

FMCSA hasn't told us what BASIC score is unsafe. They haven't told us who not to use. But they have given accident lawyers jet fuel for their negligent hiring lawsuits against small business and impose great costs on small business to protect themselves against such lawsuits.

In 2004, a Federal court created a new interpretation of the common law known as “duty of reasonable care.” Succeeding cases built upon it with the result of brokers and shippers must now second guess if a fully authorized motor carrier licensed by FMCSA is safe to operate using subsets of FMCSA data that don’t determine fitness, most of which are purposefully hidden from us. Doing something less may be deemed by certain courts and jurisdictions as negligent hiring.

Since CSA is relative and graded on a curve, there will always be a number of motor carriers with an alert in one or more of seven different scores. Which carrier is more dangerous, one with a 60 or a 72? We heard from the Deputy Administrator that he doesn’t know. He can’t answer that question for the committee here today. I can’t answer it either. They can’t answer it without looking at far more data that we don’t have access to, without further investigation, and as you heard, without going back to the office and maybe even going and doing an onsite audit.

Many shippers, it should be noted, will not use motor carriers just because they have an alert in one of these arbitrary scores. But good brokers and shippers guaranteed will be sued with impunity because they used a carrier with a high relative subjective score graded on a curve.

FMCSA’s responsibility is to issue carrier licenses and enforce compliance to safety standards they set. It should be their sole responsibility to tell the public which carriers are safe and not safe to use. Until a safety fitness determination rulemaking next year is developed for public comment and ultimately developed into a final rule, we ask that FMCSA define who the high risk carriers are, list them, and send them in a file daily to the public.

Two, that FMCSA immediately convene a CSA stakeholder subcommittee of experts and listen to them; that Congress ask the GAO to review CSA in light of their previous investigation at the agency’s relative safety scores; and finally, that Congress should remove lawsuits involving interstate commerce to Federal courts.

I apologize for taking more time. Thank you very much.

Ms. VELÁZQUEZ. Mr. Chairman, it is my pleasure to introduce Michael Belzer. He is an Associate Professor of Economics at Wayne State University. He received his Ph.D. from Cornell in 1993, focusing his research on the dynamics of deregulation and institutional structure on industrial relations in the trucking industry.

Dr. Belzer is the author of *Sweatshops on Wheels: Winners and Losers in Trucking Deregulation* and numerous peer reviewed articles on trucking industry economics, labor, and occupational safety. He has also led numerous projects for the FMCSA, including a 2009 study on safety issues facing the curbside bus industry. He created and chaired the transportation research board committee on trucking industry research. And he is a member of numerous other transportation policy committees.

Dr. Belzer is currently developing a strategic economic development plan to transform southeast Michigan into a global freight transportation hub.

Thank you for being here. And welcome.

**STATEMENT OF DR. MICHAEL BELZER, PH.D.**

Mr. BELZER. Thank you very much. On June 1, 2011, a discount intercity bus carrying 59 people to New York's Chinatown crashed, killing four people and injuring more than 50 others. The carrier had a long history of violations and crashes and a safety rating far worse than the rest of the intercity bus industry. A driver fatigue rating of 86 on a scale of 1 to 100 meant that before the crash Federal officials had rated it among the most unsafe bus carriers. Its driver fitness rating of 99.7 meant that it ranked in the bottom 1 percent. Sky Express should not have been on the road. And after the crash, the FMCSA banned it from interstate service. Although the ban was too late for the victims, under U.S. regulations it still does not prevent the company from continuing to operate intrastate.

Safety advocates' call to require seat belts, stronger rules, and more driver training do not address the problems that led to the crash and would not prevent future crashes. Intense competition created by deregulation created the safety problem. We do not have to repeal deregulation to solve it, but we have to address the problems this competition creates. If insanity is doing the same thing over and over and expecting a different result, we are all crazy. Preventable crashes like this will happen again for the same reasons regardless of how many times we rework the algorithms of CSA or replace the entire program altogether. In short, CSA tries to address safety problems. We cannot remedy them until we begin to address trucking's systemic problems.

I have examined the link between CMV driver compensation work pressure and driver safety. Research establishes a pay safety link that is important for policy because it shows that the economic force that is inherent in transport competition tends to produce unintended safety and health consequences for drivers and passengers. My full report on the economics of safety, which I submitted to the committee, applies to both truck and bus. Transport deregulation brought lower consumer prices, but this bus crash showed the dark side. Deregulation has increased competition among carriers in all modes, hauling both passengers and freight, and has reduced compensation. CSA in its current form places pressure on drivers without addressing underlying causes. In the trucking industry, poor compensation for drivers causes a misperception of a driver shortage that isn't there and causes carriers to look for cheaper labor, such as that found in Mexico. Everyone who has passed introductory economics knows that more drivers will be attracted to trucking by a better job package, including compensation. Opening the border to Mexican truck drivers would bring worse pay, as Mexican drivers compete with American small business drivers and employees at a quarter of the cost. No regulation can overcome the effect of markets that drive down price.

This creates an economic sustainability problem. The CMV driver's workplace is the public highway, and unsafe drivers become a public hazard; what we in economics call a negative externality. While people buy transport services for an apparent market price, it does not include safety and health costs. Economic efficiency requires that price incorporate all costs and benefits associated with commercial movement and failure to incorporate the full safety and

environmental costs sends incorrect signals to the market, creating an implicit public subsidy of unsafe operators.

If the insurance market worked perfectly, the risks associated with low paying carriers would show up in higher cost insurance. This market does not work well because insurance companies cannot rate motor carriers and charge accordingly. These crashes are low probability/high impact events that insurance companies just don't like.

These findings are consistent with economic theory because we expect that carriers pay drivers their market value determined by their personal employment history, driving record, training and education, experience, driving skills, temperament, and other factors. These factors explain the differences in safety outcomes. For every 1 percent in pay, we have found 1 to 4 percent better safety, controlling for the factors that we can. Higher pay produces better carrier and driver safety. We don't yet know whether safety pays, but clearly higher driver pay causes safety. Since price should include all costs in an efficient market, the environmental and safety costs associated with cheap labor and cutthroat competition create unsustainable supply chains that make everyone less well off.

Three solutions would go a long way to resolve this problem: Number one, get government regulators out of their silos. FMCSA and the Department of Labor should cooperate with industry and with each other to talk about how to promote economic conditions that improve highway safety. The DOL has the authority to regulate compensation, and perhaps it is time to reconsider certain exemptions for the trucking industry under the Fair Labor Standards Act.

Number two, implement chain of responsibility and safe pay rules, like those enacted by the Australian Parliament this year, to create a level playing field in a deregulated environment. The owner operator model is valuable and we need to preserve small business in the trucking industry. Other nations like Australia maintain a competitive industry that supports small business truckers and doesn't compromise safety. One way to do this is to address underlying systemic problems such as the failure to pay truckers for loading and unloading time.

Number three, tighten regulations on subcontracting balances the power between contractors and trucking companies, as Australians have done. This would give owner drivers a fair shake. In short, help level the playing field by giving small businesses more negotiating power to keep costs low and safety benefits high.

Thank you very much.

Chairman GRAVES. Mr. West.

Mr. WEST. Thank you, Mr. Chairman. And thank you to the panel for being here. My first question: Any time we deal with regulations, I always ask, did the Federal Government come down and talk to you all, the practitioners, and try to get a bottom-up review of this SMS process before it was pushed down upon you?

Mr. TUCKER. I can try to answer that.

We, myself personally along with my trade association, the TIA, Transportation Intermediaries Association, have met several times with FMCSA. And we have told the Administrator herself and another Deputy Administrator—in fact, he volunteered in front of

hundreds of our members a few months ago to sit with us before they issued their guidance document that shippers and brokers would have to somehow use or suggest they use CSA. We asked them, please don't do that. Please sit with us. That would be devastating to business if you did that. It is not ready for that yet. And both times we felt were going to have that meeting. And 1 week before the meeting was held, the documents were published. So we sat and talked about why did that happen. The documents actually said they listened to us, our association and another association, which was I think a mischaracterization of what occurred.

That is my perspective.

Mr. MIRANDA. Mr. West, being a small business trucking company owner, being a trucker on the road myself, no, they didn't come down and talk to me. They didn't come to the truck stop and talk to the drivers. They didn't come and talk to any of the people who really are affected by this. They are changing my life. They are changing the way I feed my family without talking to us at all. And I will tell you and I will assure you that it is bringing economic impact to my family and to the families that I help support daily in great numbers. And they are not caring about anything we say. And we have called and asked questions, even how this thing works. And they won't answer the question.

Mr. WEST. Then this is my follow up to that because I believe that in place of something that you don't agree works very well, what would you all seek to try to implement or institute? Because we have to have safety on our highway system. So what are some of your recommendations? Since we do have the guy back there from the regulation and compliance section, what were some of the things that you would present to him that he can take back right now today?

Mr. BELZER. Can I throw something out?

Mr. WEST. Sure, Doctor.

Mr. BELZER. This is Dr. Belzer.

Mr. WEST. I know.

Mr. BELZER. Well, I know there is a record here of some kind.

So I have spoken with them and met with them many times. I have served on some panels and different things like that. In fact, Anne Ferro asked me to come down and speak to the MCSAC a couple of years ago about the economics of safety question. I actually applied for a position on MCSAC when there were some openings but I didn't get the job or the opportunity to serve. However, I have actually done a lot of studies for them over the years, different times and most recently, actually, one on using the large truck crash causation study.

Mr. WEST. I only have 1 minute and 38 seconds.

Mr. BELZER. Very quickly. I proposed to them some years ago a benchmarking program which I developed which is in many ways a lot like CSA but allows immediate feedback to the carriers on how to improve their operations. And it was developed based on sound science relative to the causes of truck crashes and started from that perspective and worked back to come up with a rating.

So I would recommend that they take a look at that again. And we would be glad to be helpful with that.

Mr. WEST. Now is that something that the gentlemen here could be in agreement on?

Mr. TUCKER. I think I have something much quicker and faster that would improve safety immediately. And we have asked this in writing and in various meetings. We asked—the FMCSA is required to identify high risk carriers. We have asked them to identify them in a list, give them to us, update that daily to the industry. We will stop using those carriers overnight. It is a small percentage, very small. We asked for daily changes in the safety ratings. When a safety rating goes from satisfactory to unsatisfactory sometimes it will take 5 to 6 weeks for us to find that out. We asked them to issue that in a daily file. And then thirdly, we have asked, when they place a carrier out of service for a lot of different reasons, they are not able to pull the carrier's authority. So they tell the carrier, you can't go on the road, but they can't pull their authority. We have asked them, look, we don't care if you pull their authority. Just tell us who you placed out of service. We will not use them.

Unfortunately, instead of concentrating on those concrete, clear safety issues, they have advocated we use this relative score.

Mr. GALLO. Sir, in my line of work, if the numbers aren't right, you either need to fix them or pull them.

Mr. MIRANDA. Mr. West, I would bring to you that not only should you look at how to correct it but we need to look at, the correction is looking at education. We are not educating. We are putting a very arbitrary decision making by someone saying that you violated something with no proof that you violated it. You are not convicted by any judge, jury, peers. You are just, by an officer, saying that you did something. Me, as a police officer, I have spent many years in the law enforcement community. And I am here to tell you that the officer is wrong sometimes. Sometimes he doesn't understand the law. Sometimes he doesn't understand. Sometimes he makes mistakes. That makes him human. This does not give for any human factor. This says that he gets to decide who gets to stay in business and who doesn't. And me, as a small carrier, I am telling you, that is going to put a lot of small carriers out of business. It is going to put a lot of families not eating and on the welfare lines. I urge you to really think about this long and hard.

Mr. WEST. Thank you, panel. Thank you, Mr. Chairman. I yield back.

Ms. VELÁZQUEZ. So I just would like to ask Mr. Miranda, would you be supportive of what Mr. Tucker recommended to the Administrator?

Mr. MIRANDA. No, ma'am.

Ms. VELÁZQUEZ. Including the list.

Mr. MIRANDA. I don't know what OOIDA's standpoint would be, but for me as a small trucker, no because the problem is—

Ms. VELÁZQUEZ. Okay. I just needed a yes or no answer. Thank you.

Mr. Gallo, you heard Administrator Bronrott when I asked him about your study. And then we asked about the updated study and the response that he made. So the FMCSA's data set that was used was still magnitudes larger than yours. I believe that is five times larger than yours. So is it possible that your sample size is still too

small to accurately determine the relationship between the BASIC and accident probability?

Mr. GALLO. Yes. Thank you. I should clarify my earlier statement. I said I was flattered. Actually, I got a pit in my stomach when I first read the report. So when we went back to it, we did dig very deeply.

No, a 200 carrier set is certainly adequate by most statistical measures. But part of the reason why we broadened our study to 4,600 carriers was for that reason. And again, we found virtually no statistical correlation. So math is math. I would encourage them to rerun their numbers if they like. But I do have some additional comments if you would care for me to comment on the UMTRI report.

Ms. VELÁZQUEZ. Okay.

Dr. Belzer, some trucking firms have increased driver pay and found that it increased the overall safety record of the company. However, current market forces prevented them from continuing to pay the elevated rate. What can we do to strike the right balance between regulations and pay to create a safer highway system?

Mr. BELZER. Well, I think probably the most important thing we can do is start with the perspective that the economic competition is driving these outcomes and try to think about what we can do to change the economic balance. We don't want to encourage cutthroat behavior. We don't want to encourage a race to the bottom, as some people call it. And I think the way the deregulation in competition transport works, it tends to drive that process.

I now teach transportation economics to graduate students. And as I do that, it is more clear to me that it is the competition itself that is causing the problem. So we have to address ways of kind of putting boundaries around it. And one of them could be, for example, paying drivers for the nondriving labor. Once you do that, they will self regulate.

Ms. VELÁZQUEZ. Dr. Belzer, I was shocked to find that FMCSA has very little power to remove unsafe trucks and buses from the roadways. And I found that because this accident impacted some of my constituents, the one in the Bronx. Do you think that the new disciplinary measures of the CSA program are enough to address the safety concerns posed by the curbside bus industry?

Mr. BELZER. So I don't know the details of the CSA. But I don't believe that it is dealing with the economic competition that is driving this process. This is like the little Dutch boy and his finger in the dike and the water keeps flowing. And the difficulty that we have when we have this kind of cutthroat competition, which was what was involved in that particular crash, that is not the kind of thing that is going to get fixed by a regulation that makes it more difficult for people to operate. It is going to be probably a proactive effort to make sure that the people who are doing the work are getting paid for it. So I think that is really what it comes down to.

Ms. VELÁZQUEZ. Okay. Thank you.

Chairman GRAVES. Mr. Hanna.

Mr. HANNA. Doctor, the way it is set up now, it is sort of like a bell curve. Everybody is scored. And some people have to get a bad score. Some people have to get a good score. Mr. Tucker thinks



that is ridiculous. It doesn't make any sense to me either. What do you think of it?

Mr. BELZER. It sort of reminds me of the curve in the classroom, right, so I can get in trouble on that one.

But I think that it is very difficult. When I set up the trucking industry benchmarking program, I actually partnered with the California Trucking Association. What we were going to try to do was to implement this association wide in California. Ultimately, I couldn't, on a voluntary basis, get enough carriers to participate in it to—

Mr. HANNA. It doesn't make any sense. If a trucker scores well and the bulk of truckers, 99 percent of them score well, why shouldn't they all have a good score? And conversely, why should everybody be penalized because somehow the bell curve idea is being used? You know, along with the pay idea, I understand that and I agree with it. I wonder also, part of the problem is that the scoring, the way trucking companies are penalized runs with the company, not necessarily the driver. And one of my complaints about OSHA, having been in business for so many years, is not that they penalize people as a company, but that there is no accountability on the part of the driver. They are almost treated as if they were a piece of equipment in terms of their accountability. It sounds as though it is the same here.

Mr. BELZER. There is more accountability in trucking than there would be in your standard business, I think. And the reason is everybody who drives a commercial motor vehicle has to have that license, and that license personally travels with them throughout their career. So the reason why this pay thing works—and some of my best supporters are nonunion companies, like J.B. Hunt and companies like Schneider, companies like that, they want to know if the driver has got a safety problem. That safety problem goes to that driver, that driver's record right along. And that is different from what happens if somebody climbs a ladder and falls off. It very difficult to track that kind of stuff back. This is pretty trackable.

Mr. HANNA. Mr. Tucker, I watched you as you were listening to Mr. Belzer. I wonder if you have a question you would like to ask him on my time.

Mr. TUCKER. I have a few things I would probably like to say.

Mr. HANNA. You have got 2½ minutes.

Mr. TUCKER. I really hesitate as a free market kind of person. I am a brokerage, right. So I have to buy and sell. And I love the free market. I would hesitate going down the road of somehow regulating pricing for trucking. It will be something that industry will rail against. I think you will have the National Association of Manufacturers and every other trade association screaming. It will be a bloody war, I think. It will wake up every association that is out there because eventually it will raise prices to all of us.

The reality is, right now, prices are going up. It is a supply and demand. Trucking is a leading indicator. We came out of the recession far faster and sooner than the country did. We went into it faster as well. Right now, I can tell you that the rates that truckers are getting are better. The returns are better. Actually, this person would be far better to tell you.

Mr. HANNA. To Dr. Belzer's point, it doesn't necessarily mean that the driver is getting the benefit of that. What do you say to that?

Mr. TUCKER. That is a very good point. But right now, in good economies, like we are having right now in trucking—not the greater economy but in trucking—drivers get signing bonuses to come on to trucking companies. And drivers are very—right now, there was a trade association recently, one of the largest carriers in the country said, I have got something like 68 brand new tractors and trailers he can't fill with drivers. And he is giving away signing bonuses to fill those seats.

So I have a hard time trying to mess with a market that has its ups and downs but works, in my opinion.

Mr. HANNA. Thank you, chairman. I yield back.

Chairman GRAVES. Mr. Landry.

Mr. LANDRY. Real quick, it just occurred to me, do any of y'all know how many people, how many lives are lost on our highways due to poor roads and bridges and poor infrastructure? Dr. Belzer?

I heard that 4,000 are caused by it.

Mr. BELZER. Well, there are 4,000 some that are killed every year in truck related crashes and some 49,000 are killed—

Mr. LANDRY. Such things as roadways, any idea? I am just curious because that is our job to make sure that the roads are safe. I don't know. Mr. Miranda, do you believe that our roadways, especially the Federal roadways are in A plus shape?

Mr. MIRANDA. My answer to that is, no, sir.

Mr. LANDRY. That is absurd. And then the fact that we can't even do our job but yet now we want to regulate your business as well and tell you how you have to drive safer, but we can't provide a transportation system that is at least of A or B quality.

Mr. MIRANDA. I would tend to agree with you, Mr. Landry. As a matter of fact, I would comment that of those 4,000, nobody is taking into account how many of those accidents were the primary cause of collision factor, whether road conditions or weather conditions.

Mr. LANDRY. Right. Now let me ask you, do you have an onboard recorder? How many trucks do you have?

Mr. MIRANDA. I have three trucks I have got under my authority, sir.

Mr. LANDRY. Do you have any onboard recorders?

Mr. MIRANDA. No, sir. I couldn't afford it. If I had to put those on today, I would have to close my doors.

Mr. LANDRY. Oh, no.

Mr. MIRANDA. I am trying to figure out where Mr. Tucker sees this great economy. Because maybe the brokers are taking it and putting it in their pockets, but it ain't coming to the drivers, I will tell you that much.

Mr. LANDRY. So you are basically saying that if you were mandated to put those recorders on, you would probably have to close your door.

Mr. MIRANDA. No. There is no question. I would close my door, sir. Right now, I am running on about a 7 percent profit margin.

Mr. LANDRY. And you have, you said, three trucks?

Mr. MIRANDA. Yes, sir.

Mr. LANDRY. Now you are the boss over those three trucks, right?

Mr. MIRANDA. I don't know if I would consider myself a boss, but I am in charge.

Mr. LANDRY. You are in charge. And so when you give an order that those drivers are supposed to implement that order—you said you were in law enforcement; is that right?

Mr. MIRANDA. I have been in law enforcement, yes, sir.

Mr. LANDRY. Worked for the sheriff's office or the municipal?

Mr. MIRANDA. I worked for the L.A. County Sheriff's Office. I also worked for the Oakland Housing Authority.

Mr. LANDRY. Now when the sheriff put down a policy or said, this is the way I want it done, what would happen if y'all deputies didn't follow his command?

Mr. MIRANDA. Normally you got some days on the beach or got fired or both.

Mr. LANDRY. So the President of the United States says that he doesn't like it. He agrees with you. He thinks that you can't afford those onboard recorders. But yet the person who works for him says that regardless of what the President says, we are going to put those in your truck. I mean, does that seem counterintuitive to the way the chain of command works?

Mr. MIRANDA. It seems very counterintuitive to me, sir.

Mr. LANDRY. Let me ask you a question. If we mandate this, how many more businesses like yourself do you think are going to close?

Mr. MIRANDA. My opinion or what can I state as a fact?

Mr. LANDRY. Well, I mean, give me your opinion.

Mr. MIRANDA. My opinion is, I would say probably—you take almost any trucking company below 10, and they are probably going to be out of business within 30 to 90 days.

Mr. LANDRY. But I mean, the transportation industry won't come to a grinding halt. What would it look like?

Mr. MIRANDA. J.B. Hunt, Schneider, Swift, U.S. Express, Covenant. That kind of company.

Mr. LANDRY. So basically this regulation will force you out of business and into the hands of a major corporation?

Mr. MIRANDA. Yes, sir.

Mr. LANDRY. That is where they would deliver you to?

Mr. MIRANDA. Yes, sir.

Mr. LANDRY. That is not the American way.

Mr. MIRANDA. That is not what I fought in the trenches for. That is not what I went to war for when I joined the Army.

Mr. LANDRY. Oh, you were in the Army too then?

Mr. MIRANDA. Yes, sir.

Mr. LANDRY. So when the general put down an edict or he gave an order—and Mr. West is a great American. He served as well. I did as well in uniform. And I know when they told us something, that normally it meant—

Mr. MIRANDA. That was the marching order. I didn't get to think about it. I just did it.

Mr. LANDRY. Right. Unless it was something, you know, that was just unethical or immoral.

Mr. MIRANDA. No, I never did anything morally—

Mr. LANDRY. Right. But you wouldn't take an order that would put your life in danger?

Mr. MIRANDA. Yes, sir, I took orders that put my life in danger, but I would not——

Mr. LANDRY. In other words, an order that you felt——

Mr. MIRANDA. That went against my beliefs? No, sir.

Mr. LANDRY. Right. Right. Right. So evidently, maybe the Director doesn't believe what the President says. And maybe in his heart, he just wants to see y'all spend another \$2 billion implementing this regulation and driving you out of business.

Mr. MIRANDA. I am not sure if he is trying to drive us out of business. But I don't think he has ever been behind the wheel of a truck. And I think I would like to invite him to come on out. I am sure if I couldn't put him in one of my trucks, I am sure one of the members of OOIDA would be more than happy to take him for a ride and show him the realistic world of truck driving.

Mr. LANDRY. Thank you.

Chairman GRAVES. With that, I want to thank all of our witnesses for——

Ms. VELÁZQUEZ. Mr. Chairman, I have a follow up question.

Chairman GRAVES. Sure.

Ms. VELÁZQUEZ. Mr. Gallo, going back to the study, can you submit for the record at least and tell me what was the breakdown that the news survey containing 4,600 new operators, if there were different business sizes that were included in that sample. Do you have a breakdown for that?

Mr. GALLO. Yes, I do. And also, in our written testimony, we included our research report. It is on page 7 of that report.

82 percent were below 250 trucks. I can give you the actual numbers if you like.

Ms. VELÁZQUEZ. 82 percent below——

Mr. GALLO. 82 percent below 250 trucks.

Ms. VELÁZQUEZ. Okay. So within that sample of 82 percent—because that is a big number, 82 percent.

Mr. GALLO. Yes. So if we break it down further, between 100 and 249 trucks, there were 1,047 motor carriers. From 50 to 99, there were 1,368 motor carriers. And then from 25 to 49, there were 1,379 firms that we looked at.

Ms. VELÁZQUEZ. Thank you.

Chairman GRAVES. With that, I want to thank all of our witnesses for appearing today. Obviously your testimony has been very helpful, obviously demonstrating the impact that Washington regulations have on small business.

With that, I would ask unanimous consent that all Members have 5 legislative days to submit statements and supporting materials for the record. Without objection, that is so ordered.

With that, the hearing is adjourned.

[Whereupon, at 2:52 p.m., the committee was adjourned.]

**STATEMENT OF  
WILLIAM A. BRONROTT  
DEPUTY ADMINISTRATOR  
FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION  
U.S. DEPARTMENT OF TRANSPORTATION  
  
BEFORE THE  
HOUSE COMMITTEE ON SMALL BUSINESS**

**JULY 11, 2012**

Mr. Chairman, Ranking Member Velazquez, and members of the Committee on Small Business, thank you for the opportunity to appear before you today to speak to the Federal Motor Carrier Safety Administration's (FMCSA) Compliance, Safety and Accountability (CSA) Program and the impact on small businesses. CSA is FMCSA's compliance model to carry out its important safety mission of reducing large truck and bus crashes, injuries, and fatalities on our nation's highways. It enables the Agency to identify high risk motor carriers for early intervention and achieve improved levels of compliance with Federal commercial motor vehicle safety and hazardous materials regulations. Additionally, through increased operational efficiencies, CSA is enabling FMCSA and its State safety enforcement partners to identify and address compliance and safety deficiencies of a larger segment of the motor carrier industry than we were previously able to using the SafeStat system and compliance review model, with less interruption to motor carriers' business operations. We have examined the effect of CSA on small business and have found there is fair treatment across the industry regardless of carrier size. Our improvements also take away less time from these small businesses and help keep them on the road.

Core Priorities

FMCSA has a number of initiatives and programs underway aimed at achieving our core safety mission. We have set a strategic framework in which to prioritize our responsibilities and clearly focus our efforts and resources on a vision of eliminating crashes involving commercial vehicles.

FMCSA aims to:

1. Raise the safety bar to enter the industry;
2. Require operators to maintain high safety standards to remain in the industry; and
3. Remove high-risk operators from our roads and highways.

This strategic framework applies to companies, drivers, brokers, and service-providers alike.

While recognizing the important safety work that remains to be accomplished, I would like to point to some of the recent improvements in motor carrier safety:

- Even with continued growth in all vehicle miles travelled, and an 8 percent increase in miles traveled by commercial motor vehicles from 2000 to 2010, fewer fatalities from crashes involving large trucks and buses occurred in the past 2 years than in any other 2-year period since fatal crash data collection began in 1975.
- Fatalities from large truck and bus crashes have declined 26 percent since 2006 (5,347) to 2010 (3,944).
- Safety improvements have been realized not only in terms of fatal crashes, but also in injury crashes. In 2010, 106,000 people were injured in crashes involving large trucks and buses, the second-lowest number of persons injured in these crashes since 1988, the first year of injury crash data collection.

- According to Federal Highway Administration data, the number of people injured in large truck and bus crashes declined 16 percent from 2006 to 2010 and declined 36 percent from 2000 to 2010.<sup>1</sup>

The reduction in severe and fatal crashes involving commercial motor vehicles comes about through the dedication and hard work of many people represented by the stakeholders in this room. However, with nearly 4,000 fatalities and more than 100,000 injuries in large truck and bus crashes each year at an economic cost surpassing \$58 billion, we can and must do more. FMCSA's employees are passionate about saving lives. With clear priorities and productive stakeholder relationships, I assure this Committee and the public that we are on a path to increase the effectiveness of our safety oversight of the motor carrier industry.

#### Why CSA?

Since 1986, the Compliance Review (CR) has been the primary intervention and investigative tool used by FMCSA to compel compliance and determine the safety fitness of large trucks and buses. A CR is a comprehensive on-site assessment of a motor carrier's records by one of FMCSA's (or a State's) safety investigators at the carrier's principal place of business.

The comprehensive CR has proven to be very effective in changing unsafe behavior, however it is also very time consuming and labor intensive for both the motor carrier and our safety investigators. A CR can take up to a week or more to complete, depending on the size of the carrier and the complexity of violations found. This was a problem because, before CSA, the

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<sup>1</sup> The VMT and registration data can be found in the Federal Highway Administration (FHWA) Highway Statistics report (Highway Statistics 2010, 5.2.1 Vehicle-miles of travel, by functional system, 1980-2008 VM-1). The crash data comes from NHTSA's Fatality Analysis Reporting System, General Estimates System (Fatality Analysis Reporting System General Estimates System 2010 Data Summary).

comprehensive CR was the primary tool at the disposal of our safety investigators to begin the process of assessing a motor carrier's safety fitness and compelling improved compliance on a company-wide level. Moreover, our current regulation for determining the safety fitness of motor carriers is tied to the comprehensive CR. Based on the findings of comprehensive CRs, motor carriers are issued a safety rating of Satisfactory, Conditional, or Unsatisfactory. However, these ratings cannot change from on-road performance, no matter how far a motor carrier's on-road performance may have slipped or improved. The end result of these limitations is that FMCSA could address the safety deficiencies of only a small fraction of the industry – between two and three percent of the carrier population annually. FMCSA data indicate there are approximately 525,000 active, registered commercial motor carriers and 7 million commercial driver licensees operating in interstate commerce monitored by the Agency's 1,100 employees, approximately 850 of which operate in the field.

#### How CSA is Improving Safety through Compliance and Accountability

CSA consists of three components: (1) the system, (2) the process and (3) the rule. The system is the Safety Measurement System (SMS), which is a safety measurement system that uses all available inspection and crash data to assist the Agency in prioritizing carriers for review by the Agency. The process refers to the Agency's intervention tools, designed to allow the Agency to reach more carriers with its limited resources. Finally, the Safety Fitness Determination rulemaking would utilize available roadside inspection data in conjunction with investigative data to make Safety Fitness Determinations. The Agency plans to issue a notice of proposed rulemaking on the Safety Fitness Determination early next year.



Throughout the process of developing and rolling out CSA as the Agency's new enforcement and compliance program, FMCSA has responded to the concerns of our stakeholders and actively sought out comments and input from all interested parties. We are committed to a program of continuous improvement and transparency and regularly meet with our stakeholders to discuss their concerns.

#### The Safety Measurement System

The SMS is designed to analyze compliance and safety violations discovered at the roadside along with data gathered during investigations and reportable crashes to measure a carrier's compliance and safety performance in seven behavioral areas called BASICS – Behavior Analysis Safety Improvement Categories. These are: (1) Unsafe Driving, (2) Fatigued Driving (Hours-of-Service), (3) Driver Fitness, (4) Controlled Substances/Alcohol, (5) Vehicle Maintenance, (6) Cargo-Related, and (7) Crash Indicator. By analyzing the violations grouped into specific and distinct categories related to unsafe or non-compliant behavior, SMS provides a more comprehensive, robust and granular view of the specific performance and compliance issues of individual motor carriers. SMS is the key tool FMCSA uses to allocate intervention resources toward the highest risk motor carriers in alignment with the Agency's goals and direction from Congress. Both FMCSA and independent analysis confirm SMS is effective in meeting the Agency goals.

While the CSA program has been criticized for a perceived lack of data in SMS, our analysis shows that the SMS has sufficient performance data to make an intervention prioritization assessment in at least one BASIC for nearly 200,000 of the approximately 525,000 active interstate or intrastate hazardous materials carriers for which FMCSA has safety oversight

responsibilities. More importantly, the analysis reveals that those same 200,000 motor carriers are involved in approximately 93% of the crashes reported to FMCSA by our State partners.

Additional analysis by FMCSA and the University of Michigan Transportation Research Institute (UMTRI) shows that SMS is an effective tool to identify the highest risk motor carriers. In fact, the UMTRI evaluation of SMS demonstrates that it is a significant improvement over the prior SafeStat system in identifying unsafe carriers. FMCSA effectiveness testing conducted by the UMTRI has shown that SMS identifies 25% more high risk carriers and those carriers have 56% more crashes than the carriers identified on the prior SafeStat A or B lists.

With respect to individual BASICS of the SMS, both FMCSA and UMTRI analyses show particularly strong associations between high scores in the Unsafe Driving and Fatigued Driving (Hours-of-Service) BASICS and future crash rates. FMCSA has been transparent, however, in revealing that analysis does not suggest a statistical association between two of the current seven BASICS – Driver Fitness and Cargo-Related – and future crash rates. FMCSA uses this information to optimize its intervention resources by placing more emphasis on those BASICS that measure compliance with regulations that have stronger statistical associations to future crashes, for example, speeding and driving over allowable hours. At the same time, FMCSA holds motor carriers accountable for BASICS that measure compliance with important safety regulations such as ensuring their drivers are properly licensed and medically qualified. FMCSA's deployment of the SMS has significantly raised safety awareness throughout the motor carrier industry. In calendar year 2011, the public website that provides a motor carrier's status in the SMS prioritization system hosted nearly 30 million user sessions, up from 4 million user sessions under the prior public SafeStat system in calendar year 2010. Anecdotally, FMCSA continues to hear that this increased awareness and transparency has raised the status of safety

within corporate cultures. An examination of violation rates from roadside inspections in calendar year 2011 indicates this increased awareness is already improving safety compliance and performance. Violations per roadside inspection were down by 8%, and driver violations per inspection were down by 12% in 2011. This is the most dramatic improvement in violation rates in the last 10 years.

While FMCSA recognizes the clear safety benefits from being transparent and making carrier prioritization status in the SMS largely available to the public, FMCSA is also cognizant of the need to provide proper context to the data and be responsive to stakeholder concerns. To that end, FMCSA includes information on the SMS public website that clearly states that it uses SMS to prioritize motor carrier for safety interventions and explains that assessment in the BASICs do not constitute formal safety ratings. The Agency has also provided public outreach materials to promote the use of all available safety data, including not only SMS, but Licensing and Insurance information, and formal safety ratings.

The use of crash data in SMS has also been a concern for some of FMCSA's stakeholders, particularly, the fact that the State-reported crash data utilized by the Agency do not distinguish crashes based on whether they are the responsibility or "fault" of the carrier. FMCSA has multiple studies, however, showing that crashes, regardless of the carrier's role in the crash, are a strong predictor of future crashes. FMCSA's materials and public display of crash data clearly state that the crash data is based on crash involvement without determination of responsibility, and the SMS crash BASIC itself is not shown to the public.

Toward our goal of continuous improvement FMCSA has been looking at various options to best use crash data to identify carriers that have the greatest risk of future crashes. As part of this

effort, FMCSA has been pursuing a program called “crash weighting.” The premise of the program is to identify crashes for which a carrier had greater responsibility, and consider weighting them differently than other crashes in the SMS. Earlier this year the Agency presented the draft proposal to the Motor Carrier Safety Advisory Committee (MCSAC). Based on questions received from MCSAC members following the presentation, it became clear that the proposal warranted further study to ensure that the Agency develops the most effective, efficient and fair process to address the approximately 130,000 crashes that are reported each year.

Later this month, the Agency will release the scope and schedule for the crash weighting study. The study will include a broad review of the uniformity and consistency of police accident reports; examination of the process for making “final” crash determinations; the process for accepting public input; and the actual effect on SMS’s ability to better identify carriers that have a high crash risk. Finally, this data will help us to determine the ability of the Agency to address the potentially large volume of crash weighting requests within our current resources.

FMCSA is committed to continuously improving the SMS. Throughout the life of the program, we have carefully considered constructive feedback from the motor carrier industry, enforcement personnel, safety advocates, and other stakeholders in making data-driven and analysis-based refinements. In fact, FMCSA is currently providing motor carriers an opportunity to preview and provide comments on a package of proposed SMS improvements before they are implemented. Many of the proposed improvements are based on industry and stakeholder input received since initial rollout of SMS in December 2010. As part of this recent preview effort, FMCSA sent notices to over 185,000 motor carriers to announce the proposed improvements, encourage comments, and offer free webinars explaining the proposals. Over 700 motor carriers

participated in the subsequent webinars and were encouraged to provide feedback on the current proposed improvements as well as suggestions for future improvements. Nearly 13,000 carriers have logged into the SMS Preview website to view these enhancements.

Through the SMS preview and other outreach efforts, the Agency is working to identify additional improvements to further enhance SMS's effectiveness in assessing safety risk and targeting unsafe carriers, even as we are completing the current group of changes. For example, the Agency is currently working on improvements that address the relative weighting of suspended license violations, to focus resources on drivers that are suspended for safety related reasons; we are assessing the impact of adjusting the unsafe driving and crash basic denominator for higher fleet utilization; and analyzing the weights applied to certain high-volume violations as well as considering the MCSACs recommendation to simplify the violation severity weighting system.

The key to SMS is quality data. In addition to the 130,000 reported crashes annually, the SMS utilizes data from 3.5 million roadside inspections conducted by our State partners each year. It is worth noting that one-third of these inspections have no violations, which shows it is possible for carriers to improve their SMS scores with clean inspections. To manage our Data Quality initiatives, the Agency has developed the "DataQs" system to allow individuals and carriers to submit challenges to correct erroneous data in the system. The challenges are routed to the issuing State for review. Currently, of the 3.5 million inspections, less than one percent is challenged and of those challenged nearly two-thirds result in a data correction.

We continue to work with the States to ensure uniformity and consistency in the handling of DataQs requests. For example, the Agency has prepared a detailed guidance manual for State DataQs analysts, which is also posted on our website.

We are committed to continually working with our enforcement stakeholders, including the States and the Commercial Vehicle Safety Alliance to improve the quality data submitted to SMS to ensure the SMS is the most effective tool possible.

#### Interventions

The Agency's second major component of CSA is the intervention process. As stated above, prior to CSA, the Compliance Review (CR) was the primary intervention and investigative tool FMCSA used to compel compliance and to determine the safety fitness of large truck and bus companies. The CR is labor intensive and, in turn, limits the number of carriers with problem-indicators that FMCSA can investigate. The FMCSA now has more tools in its toolbox from which to choose in response to a motor carrier's compliance and safety performance. These include warning letters, focused and comprehensive investigations. Additionally, the Agency is in the process of preparing to deploy off-site investigations.

The interventions approach is designed to compel compliance and remedy demonstrated on-road performance deficiencies early, before a crash occurs. A motor carrier that has not demonstrated past safety and compliance deficiencies, but is beginning to do so, will receive a warning letter from FMCSA highlighting the specific BASICs that may require attention. This letter serves to notify the carrier of the SMS results and provides them an opportunity to address any safety management practices prior to a more significant intervention taking place. The Agency has

received various responses from industry regarding these warning letters, with some carriers expressing appreciation for the early notification and opportunity to make changes in safety management practices prior to a more significant and time consuming intervention. These carriers inform FMCSA of the corrective action put in place to immediately begin addressing and remedying the violations received roadside. Analysis of the warning letter process indicates that twelve months following a warning letter, 83% of carriers had resolved the identified safety or compliance problems. The Agency monitors a carrier's performance following the warning letter, and should the carrier's compliance improve, the carrier is no longer identified for further intervention.

The SMS BASICs provide specific measurement of a motor carrier's compliance and allows the Agency to conduct a "focused intervention". By focusing on specific problems and highlighting the area of concern, the Agency interventions are more strategic and less labor intensive than the CR and more efficient for the carrier. This focused intervention model ultimately improves compliance behavior, leads to improved safety, and reaches more carriers while being less intrusive and time consuming for all parties. Smaller motor carriers and owner operators subject to focused investigations or offsite investigations spend less time in the office working with the safety investigator, and more time on the road in operations. Analysis of the 30-month CSA Operational Model Test, demonstrated an overall 35% increase in the number of carriers reached per safety investigator, in comparison to the prior SafeStat / CR model and these focused interventions take less time and cost approximately 53% percent less than CRs.

CSA has changed the investigative process as well. Federal and State safety investigators are trained not just to identify violations, but also to identify the root cause of the safety deficiency and review these root causes with carrier officials. This approach is known as the Safety

Management Cycle. As an example, with hours-of-service violations the root cause could be training and communication, or a lack of internal oversight policies, practices and procedures on the part of the motor carrier. We believe that by working with those motor carriers that demonstrate a willingness to correct their safety deficiencies, identifying the root cause not only facilitates quicker corrective action, but corrective action that will be more sustainable over time. Later this year the Agency will begin performing offsite investigations nationwide. In an offsite investigation, the carrier submits documentation to a division office for review, without the need for a safety investigator to visit the motor carrier's place of business.

Analysis of the CSA Operational Model test indicated that the CSA focused investigation, incorporating the Safety Management Cycle, can be more effective than the traditional compliance review. The Agency will continue to conduct comprehensive onsite investigations on those motor carriers that demonstrate safety deficiencies across multiple BASICs, as well as on passenger carriers and certain hazardous materials carriers, because of their inherent risk. In addition, the Agency will continue to fully meet its Congressional mandate with respect to high risk motor carriers by requiring that this population receive onsite investigations of their safety practices. As discussed below, until an Agency rulemaking is completed, the on-site compliance review will remain the Agency's method for issuing safety fitness determinations under current rules.

In summary, by leveraging SMS and more focused interventions, the CSA program improves safety performance, provides less resource- and time-consuming interventions for both the Agency and motor carriers, and allows the Agency to reach more carriers. These interventions are more effective and designed to identify compliance problems early, before crashes occur.



#### Safety Fitness Determinations Rulemaking

The third component of the CSA model is a revision to the Safety Fitness Determinations (SFD) methodology specified under current regulation. The new methodology will be implemented through notice and comment rulemaking beginning with a Notice of Proposed Rulemaking early next year. The new SFD will be designed to replace the current labor-intensive process in which the Agency may propose and issue a safety rating only following an onsite CR investigation. With current resources, the Agency is limited to issuing safety fitness ratings through the approximately 18,000 onsite reviews conducted each year, on a population of 525,000 active carriers. The new SFD process will propose use of all available data in the system to make this determination. The SFD rulemaking also is intended to address a long-standing National Transportation Safety Board recommendation, H-99-006, to “Change the safety fitness rating methodology so that adverse vehicle and driver performance-based data alone are sufficient to result in an overall unsatisfactory rating for the carrier.”

#### Impacts on Small Businesses

We are always cognizant of the impact that Agency programs may have on business operations of all sizes, and we take care to ensure we are having the greatest impact on safety while minimizing the effect on a carrier’s operation. FMCSA’s database shows 85% of the registered carriers have 5 or fewer power units. In analyzing those impacts specifically for small businesses we found that SMS identified approximately the same number of carriers for intervention in the “5 or fewer power unit” category as were identified in the SafeStat system. Specifically, 93% of active carriers with small operations (defined as 5 or fewer power units) do not exceed the intervention threshold in any BASIC. This is comparable to SafeStat that

identified approximately the same number of carriers. As mentioned earlier, I am also confident we are now doing a better job of identifying those carriers with both compliance and safety problems.

To return to a point I made earlier, the purpose of the CSA program is to better identify those carriers that have safety and compliance problems, and to use effective and efficient intervention processes to help them improve their compliance and hence their safety performance. The CSA program is working to achieve that goal, and has done so without the issuance of a single new regulation. CSA has not resulted in any additional regulatory compliance requirements for businesses, small or large. The program leverages the results of daily inspection and investigation work based on longstanding regulations to ensure that compliance and accountability lead to safe operations. The intervention scheme, through the use of warning letters, off-site investigations and focused interventions, is designed to help carriers improve safety and prevent unsafe carriers from operating.

#### Conclusion

I would like to thank you for the opportunity to provide these comments. I feel strongly that over the last few years, FMCSA has made significant progress in implementing CSA and improving the efficiency and effectiveness of our program. We are continuing to build on these successes as we finalize the program, through data-driven decision making and processes as transparent and inclusive as possible.

Thank you again for this opportunity.

Testimony of

**Daniel Miranda**

OWNER-OPERATOR TRUCK DRIVER AND SMALL  
BUSINESS OWNER

Before the

**COMMITTEE ON SMALL BUSINESS  
UNITED STATES HOUSE OF REPRESENTATIVES**

Regarding

*IS FMCSA'S CSA PROGRAM DRIVING  
SMALL BUSINESSES OFF THE ROAD?*

*JULY 11, 2012*

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Good afternoon Chairman Graves, Ranking Member Velazquez, and distinguished members of the Committee. Thank you for inviting me to testify on matters which are extremely important to our nation's small business trucking professionals and professional truck drivers.

My name is Daniel Miranda, and I own a small trucking company based in Sacramento, California. I am also a member of the Owner-Operator Independent Drivers Association (OOIDA). While I have been a professional truck driver for more than a decade, and have logged over one million miles behind the wheel, I am relatively new to being a small business owner in the trucking industry. I have owned a truck since 2008, have been driving under my own authority since February 2010, and currently have two drivers with trucks leased to me. I know that when most of you hear "owner-operator," you think of a driver who owns his own truck and is willing to haul nearly anything to keep their business open. I can tell you that I proudly fit that description. As I have stated, I have three trucks in my business and will travel in order to make a living, support my family, and keep my folks employed. My message to you today is that under the current regulatory scheme, despite the fact that I can haul a variety of dry goods and diversify my services, it is tough staying in business.

The majority of the trucking community in this country is made up of small businesses like mine, as 93 percent of all carriers have 20 or fewer trucks in their fleet and 78 percent of carriers have fleets of just six or fewer trucks. In fact, one-truck motor carriers represent nearly half of the total number of motor carriers operating in the United States.

As you are most likely aware, OOIDA is the national trade association representing the interests of independent owner-operators and professional drivers on all issues that affect small-business truckers. The approximately 150,000 members of OOIDA are small business men and women in all 50 states who collectively own and operate more than 200,000 individual heavy-duty trucks.

I have come here today to speak about my experience with the Federal Motor Carrier Safety Administration (FMCSA)'s Compliance, Safety, and Accountability program, commonly known as CSA. I believe my experiences are similar to others in the trucking industry, particularly the little guys like me. Although I have only been operating under my own authority a short time, I can tell you that I have already experienced the oppressive and punitive nature of CSA in its current form. As someone who worked as a police officer committed to public safety

in Los Angeles before getting into trucking, I ask the Committee and the Agency if there isn't a better way to be monitoring and promoting safety on our nation's highways.

There are three overarching problems with the program that I will discuss today, in addition to telling my story about the complications my business has faced with this overly-burdensome system. These problems are: 1) *the lack of fairness and accuracy built into the system*; 2) *unfair and arbitrary severity weightings for violations*, and; 3) *the failure of FMCSA to account for whether a truck driver is actually at fault for the accidents reported in CSA*. In short, CSA, although well-intended, is today a program with considerable flaws that have wide reaching real-life implications for motor carriers. This is disconcerting to say the least, particularly in light of the fact that this program has never undergone a meaningful rulemaking.

Before I begin though, let me make it clear how this system unfairly targets small businesses. FMCSA urges shippers and brokers to use carriers who have been inspected versus those who have not been inspected. Moreover, brokers and shippers feel as if they will be liable if they do not use carriers with positive CSA rankings, something only achievable if a carrier undergoes lots of clean inspections. As a small carrier, I am less likely to be inspected as often as a carrier who has hundreds, if not thousands, of trucks, so it is difficult for me to show a score, much less the positive scores demanded by shippers and brokers.

Once a small carrier gets into the system, the only way they stay relevant is by receiving only 100-percent clean inspections, but this is not a real-world scenario. Roadside inspections, as I will discuss, are highly subjective, and law enforcement, as I know full well, can be over-zealous at times. As a small carrier, and I have seen this first-hand, just a few minor violations can send a score sky rocketing, putting the carrier nearly out of business as it becomes evident no one no one will employ your services because the system shows you are a risk, even though you operate safely. As a small carrier, I do not have the resources to fight citations and violations in court continuously, and if I should, overturned adjudications are irrelevant to the CSA system anyway, as citations are reflected as safety violations in the system even when they are overturned in court.

#### **CSA Reports "Alleged" Violations Without Providing My "Day In Court."**

As stated, I have quickly fallen victim to a bureaucratic system that capitalizes on minor mistakes and as a result have nearly gone out of business. In May of last year, one of my drivers was cited in Arizona for not keeping his logbook current. Over the next two weeks, the driver

had three subsequent inspections, one of them was clean and in the two others law enforcement determined there were violations in how the driver was characterizing his time under hours-of-service regulations as well as a minor violation with his trailer's reflective tape. Regardless of whether or not these violations occurred as alleged by law enforcement, as the owner of my business I took remedial steps with the driver, including requiring him to attend additional training on hours-of-service compliance and how to fill out logbooks to correctly record time under the regulations in order to prevent future issues and impacts on my record as a motor carrier.

Procedurally, FMCSA provides only one way to dispute or challenge violations under CSA, the DATA Q system. This is true whether or not a citation versus a warning is issued or if that citation is upheld by a court of law – under CSA these are all considered violations. And under DATA Q, even if you win in court, the violation still remains in CSA's database. I decided to challenge one of the violations noted above after talking with the driver and examining the circumstances. Our complaints in the DATA Q system simply went back to the state police officer who wrote up the violations at the roadside - as is FMCSA policy to follow state procedure. The citing officer then became judge and jury in the Data Q process on my complaint. Needless to say, the alleged violations still stand.

I place emphasis on “**alleged violations**” because a citation is issued at roadside and that citation may be challenged in court with the opportunity for it to be overturned. However, within the CSA system, the individual is assumed guilty at the time of the roadside citation, and it is at that time it is reported as a CSA safety violation, which is separate from a citation issued under state law.

Often small business truckers like me do not have the resources or time to continuously fight roadside citations in court – despite the fact that many citations may be egregious or arbitrary in nature and many are overturned in court. Large carriers, on the other hand, have legal departments and budgets that allow them to fight violations while keeping their drivers on the road. Take for example when a driver who may have no control over the equipment, is cited for an equipment violation, such as sleeper berth on a company-owned truck not meeting the size requirements under the law. That driver will likely decide that he has no way to fight the citation in court because he cannot afford to take time away from trucking in order to appear in a courtroom hundreds of miles away from his home or where business takes him on the court date.

However, even if the trucker takes the citation to court and wins, will still appear on the CSA system as a violation. The driver's only option is then to fight the CSA violation through the DATA Q system, which FMCSA uses to send the challenge back to the state for determination. As noted in my situation, the state then typically sends it back to the officer who issued the citation and recorded it into the CSA system. This is a tremendous amount of power for the police officer who is able to act as judge, jury, and executioner by issuing and upholding citations that in essence could put a small carrier out of business. A citation under FMCSA is the equivalent of a conviction, no matter what the court says.

**CSA Does Not Have a Reliable Relationship to Safety.**

CSA is flawed because its scoring system, which is centered around Behavior Analysis and Safety Improvement Categories, or BASICs, is prejudicial, arbitrary, or otherwise (as in the case of the "Crash Indicator BASIC") awaiting implementation – yet the impacts of this partial system are far reaching and disproportionately punish small businesses. Moreover, as my story will illustrate, once a carrier enters the "system" with an unfavorable score, it has near immediate business consequences with little opportunity for remedy as it is unclear how to expunge blemishes, cure minor wrongs, or otherwise purge inaccuracies – all while brokers refuse to offer shipments, shippers deny your rates, and insurance companies either raise your rates or cancel your policy altogether simply because you have a high score which may have been unfairly assigned.

In the CSA system, higher scores under each BASIC correlate with the perception of "unsafe" practices. Violations and citations issued at the state level are inputted into the system and they are assigned a severity weighting to then place drivers into percentile rankings based on a range of 0 to 100. The higher the percentile, the more unsafe a driver or carrier is considered to be and hence, considered more likely to crash.

Following the violations above, my score as a carrier went from 0 to 79 in a matter of weeks. Since that time, and even though I have ensured that my driver has completed classes in hours-of-service compliance, I have been refused loads by brokers and shippers and my insurance rates have escalated. I inquired with FMCSA on how to improve my score, and the answer I was provided with was to obtain more "clean" inspections. Having done that in the interest of proving that we are a compliant company and that we fixed whatever problems may

have existed, we underwent a number of inspections, all of which came back clean. However, under CSA, our score bizarrely went up to over 80 without any justification and has been that way for more than a year since the initial violations. This is exactly the opposite result of what should have happened according to information provided by FMCSA on CSA.

However, for a medium to large size carrier, the same three violations during a two week period are likely to hardly cause a blip in their BASIC scores. And for these larger carriers, it does seem that clean inspections do have a far-greater impact in reducing their CSA scores. But why should this only work for larger carriers? Further, for larger carriers a series of violations is likely to point at a systematic problem across the carrier, where the same thing for a small carrier is more likely to be something that is easier to correct. However, under CSA, the small carrier gets little to no credit for taking the corrective action and getting the clean inspections that FMCSA tells us we need to improve our scores.

CSA's purported purpose is to support FMCSA in its mission to reduce crashes, injuries and fatalities involving large trucks. FMCSA, in years past, has relied upon a very time intensive process for assessing carrier safety fitness by an on-site compliance review (usually triggered by roadside inspections) in order to ascertain whether problems existed within a carrier's safety management program. Under this system, FMCSA was only able to conduct compliance reviews on approximately two percent of active carriers. They also had to rely on states to supply them with current information for processing which was inadequate in many cases.

CSA was designed to be a more focused roadside inspection system, with data collected from these roadside inspections uploaded to a central data base called the Motor Carrier Management Information System (MCMIS). While CSA is a more focused system than the previous system, and as stated the intent is laudable, it is overly complicated with different formulas and rates for each BASIC, often producing a result that is biased against small carriers.

In part, the problem lies with the fact that a federal program is designed to be dependent on 50 different states reporting in a uniform and timely manner on alleged violations and citations. This alone is a challenge, as so much within motor carrier safety enforcement, and law enforcement in general, is subjective. As a former law enforcement officer, I know firsthand that police officers weigh a wide variety of variables when making decisions over citations. Law enforcement officers are human – what one state trooper will issue a citation for; another is just as likely to provide a warning. This does not just happen in trucking – think about when you or



someone you know was pulled over for speeding or simply having a tail light out unbeknownst to you. One officer may give you a ticket while another may simply give you a warning. However, in trucking this level of subjectivity, when combined with the complex CSA system, has significant negative impacts for small truckers like me.

**Arbitrary and Inadequate Severity Weightings.**

In addition to the lack of “due process” safeguards, the severity weights used in CSA are arbitrary and assign accountability based on no correlation to increased crash-risk. This is especially true in the Fatigue BASIC, where a large percentage of the violations captured are not true hours of service safety violations, but are rather “form and manner” or administrative violations (e.g. the driver forgot to write down a bill of lading number rather than exceeding a daily driving limit). According to FMCSA, approximately 35% of all hours-of-service violations are simply form and manner violations and not a result of exceeding allotted driving or on-duty hours. For example, a driver who is cited for failing to sign his Daily Vehicle Inspection Report (DVIR) is assigned a severity weighting of 4 under the Fatigue BASIC— despite the fact that the signing of this report has nothing to do with fatigue or safety. It is simply a paperwork violation associated with an innocent mistake, yet the severity level assigned by FMCSA for this violation is only slightly lower than that assigned to a violation resulting from not keeping a current record of duty status.

For those using paper logs, which will remain perfectly legal until the DOT implements a rulemaking requiring the use of electronic logging, the violation of “driver’s record of duty status not current” has a severity rating of 5. Effectively, that very same violation for those that have an electronic on-board recorder (EOBR), which are typically large companies, receives a severity weight of 1. Failure to sign a log or put a bill of lading number on the log sheet has a 2 severity weight but if that information is missing with an EOBR printout, the severity weight is 1. Currently, I am aware of very few small carriers have EOBRs on their trucks because of cost and since they are the driver and owner they see no need for them, but under this system they are arbitrarily punished for making a perfectly legal business decision.

FMCSA also has a system within MCMIS called the Inspection Selection System whereby the data from roadside is sorted and the system sends out information to enforcement that certain carriers:

- Should be inspected (warranted as a high risk carrier)
- Optional to inspect
- Pass where inspection is not warranted.

I understand that this helps law enforcement at roadside to focus on the “bad actors” within the trucking industry. Under CSA though, it is impossible for a carrier to obtain a score without at least three inspections in the Driver Fatigue Basic (five in other BASICS). This punishes a small carrier who is likely to get inspected less frequently than a large carrier with hundreds, if not thousands of trucks.

It may sound as if small businesses can fly under the radar screen, but FMCSA has informed shippers and brokers that they need to be checking the Carrier Safety Management System where the percentile scores and rankings are posted when selecting a carrier. The small carrier who has three relevant and clean inspections under the Driver Fatigue BASIC still may not get a percentile ranking because **in order to receive a percentile ranking you must have one violation**. So a carrier with three clean inspections does not receive a percentile ranking and when shippers and brokers look for that carriers ranking they find nothing often choosing a carrier that has had a violation thus a percentile ranking. Again, this seems to be a system that is punishing small carriers who are operating safely simply because they are small carriers.

#### **Lack of a Crash “Fault” Indicator.**

Another primary problem with CSA revolves around the Crash Indicator BASIC. Under CSA, crash data is collected without any determination of fault, despite the fact that police reports collect this information for use throughout the criminal justice process. Just to be clear, FMCSA relies heavily on police input, but inconsistently relied upon that. Whereas in DATA Q FMCSA defers completely to law enforcement to judge their own inspections, FMCSA does not rely upon law enforcement when it determines that a truck driver is not at fault in an accident. This means that without the fault determination, any truck involved in an accident is indistinguishable from another in FMCSA databases, and that has significant prejudicial impact on both driver and motor carrier safety profiles.

For example, nearly 20% of all crashes or other “negative interactions” with trucks involve another vehicle rear-ending a moving truck. However, CSA displays this type of crash without any indication that the trucker was not at fault. I have learned about another real-world

example where one truck that was hit by multiple vehicles as part of a 50-vehicle accident. Despite the fact that the trucker was able to stop his truck and not hit anyone, the seven fatalities that resulted from this major accident are all listed in the trucker's record under CSA with no distinction or notation about what really happened. With this flawed data publicly available to freight brokers and shippers, incomplete and false CSA data is being used to essentially red-line carriers. As illustrated with my example, regardless of fault or control, once a small carrier receives a negative score, it is nearly impossible to cure before your business is put in serious jeopardy.

**Conclusion.**

CSA replaced SafeStat as FMCSA's safety management and performance system in December of 2010. We are now a year and a half into the new system and its flaws are becoming more obvious. In short, CSA, while well meaning, in its incomplete form is having real-life impacts on motor carriers.

Given the significant role that CSA is primed to play in FMCSA's future enforcement and regulatory activities, it is important that the agency get the system right. Unfortunately, there are still major hurdles it must overcome.

**TESTIMONY OF JEFFREY G. TUCKER, CTB  
CHIEF EXECUTIVE OFFICER  
TUCKER COMPANY WORLDWIDE, INC.**

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**BEFORE THE  
U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON SMALL BUSINESS**

**JULY 11, 2012**

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**Is FMCSA's CSA PROGRAM  
DRIVING SMALL BUSINESS OFF THE ROAD?**

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**1625 PRINCE STREET  
ALEXANDRIA, VA 22314  
703-299-5700**

Chairman Graves, Ranking Member Velázquez, and members of the Small Business Committee, thank you for the invitation and the opportunity to testify at today's oversight hearing. I am grateful for the opportunity to speak with you today regarding concerns affecting small businesses arising from the Federal Motor Carrier Safety Administration (FMCSA) Compliance, Safety, and Accountability (CSA) initiative. I am a small business owner of a transportation brokerage that daily faces the impending risk of vicarious liability and negligent hiring lawsuits based on carrier selection. This experience qualifies me to provide testimony on the topic of CSA and how industry stakeholders can work with the Agency and Congress to address concerns, while continuing to promote higher standards of safety within the transportation industry.

Introduction of Jeffrey G. Tucker, CTB

My name is Jeff Tucker and I am the Chief Executive Officer for the Tucker Company Worldwide. I am also a member of the Transportation Intermediaries Association (TIA), Chairman of the TIA Carrier Selection Framework Committee, a member of the TIA Board, and a Certified Transportation Broker (CTB).

TIA is the professional organization of the \$162 billion third-party logistics industry. TIA is the only organization exclusively representing transportation intermediaries of all disciplines doing business in domestic and international commerce. TIA represents over 1,200 member companies of which over 70 percent of these companies are small family owned businesses.

Tucker Company Worldwide is a family run, New Jersey based, corporation founded in 1961 by my grandfather Jacob A. Tucker, my brother Jim and I are the third generation business owners of the company. Today, Tucker Company Worldwide continues to build upon the solid reputation for service, professionalism and reliability that my grandfather and father work hard to achieve.

As a member of TIA our goal is safety. As an organization, we have sought to work with FMCSA to make CSA the best possible tool for the Agency to use to meet its statutory obligation to determine which carriers are unsafe.

#### The Role of the Freight Broker in the Supply Chain

Freight brokers, interchangeably referred to as "transportation intermediaries," third party logistics companies ("3PLs"), and non-asset based logistics companies, are professional businesses that act similarly to "travel agents" for freight. Freight brokers serve tens of thousands of US businesses and manufacturers (shippers) and motor carriers (carriers), bringing together the shippers' need to move cargo, with the corresponding capacity and equipment offered by rail and motor carriers, or, depending on a company's authorities, air and ocean carriers too.

We are an incredibly "green" industry, and have contributed to U.S. economic growth in innumerable ways. Freight broker businesses are generally growth businesses, finding new ways to serve our manufacturing and distributing customers every year. By matching capacity with available shipments, we dramatically reduce the empty miles trucks drive between shipments, saving fuel and adding money to the bottom lines of carriers and shippers. Our industry has helped lower logistics costs as a percent of GDP by

several percentage points since deregulation, to what is now estimated to be approximately 8.5 percent according to Rosalyn Wilson, author of the *23<sup>rd</sup> Annual State of the Logistics Report*.

Transportation intermediaries are primarily, non-asset based companies whose expertise is providing mode and carrier neutral transportation arrangements for shippers with the underlying asset owning and operating carriers. They get to know the details of a shipper's business, then tailor a package of transportation services, sometimes by various modes of transportation, to meet those needs. Transportation intermediaries bring a targeted expertise to meet the shipper's transportation needs.

Many shippers in recent years have streamlined their acquisition and distribution operations. They have reduced their in-house transportation departments, and have chosen to deal with only a few "core carriers" directly. Increasingly, they have contracted out the function of arranging transportation to intermediaries or third party logistics experts. Every Fortune 100 Company now has at least one third party logistics company (3PL) as one of its core carriers. Since the intermediary or 3PL, in turn, may have relationships with dozens, or even thousands, of underlying carriers, the shipper has many service options available to it from a single source by employing an intermediary.

Shippers count on transportation intermediaries to arrange and report on the smooth and uninterrupted flow of goods from origin to destination. Most carriers rely upon brokers to operate as supplements to their sales force, and in some cases, their entire sales force. Whatever the case, brokers keep carriers' equipment filled and moving. There are

more than 15,000 licensed freight brokers in operation, and they range from small, family owned businesses to multi-billion dollar, publicly traded corporations.

#### Compliance, Safety, and Accountability

Launched in December 2010, CSA is the Federal Motor Carrier Safety Administration's initiative to improve safety and ultimately reduce the number of crashes, injuries, and fatalities that are associated with commercial motor vehicles and buses. The CSA program introduced a new enforcement compliance model that is designed to give the FMCSA and its State partners the ability to "touch" a larger number of carriers, to properly address safety and other concerns, and to do so earlier in the process.

##### 1. Relative System

Under CSA, data is accumulated on carriers for every citation, warning, roadside inspection, and crash, regardless of causation from data entered by federal, state, and local police. This data is then placed into seven statistical fields or BASICS (Behavior Analysis and Safety Improvement Categories), where points are assessed, and based upon a weighted formula for the number of trucks and the number of "safety events." The carriers are ranked by peer groups and percentiles within the BASIC. The BASICS also include non-safety-related items, for example alimony and child support payments. Once the peer groups are determined and the carrier's safety performance is determined, the performance ratings are made public, so that anyone can see the data through the FMCSA's Safety Measurement System (SMS) website. FMCSA uses the SMS results and serious violations in these BASICS, and other data to prioritize its law enforcement resources—essentially helping FMCSA and their state law enforcement partners better focus their



resources, and decide if a carrier requires a letter, a visit, or what they call a compliance review or some other more serious action. It should be noted that two of seven BASICS are not able to be viewed by the public.

The SMS and its BASIC scores offer a “relative” system designed to prioritize FMCSA intervention. Relative means that if the Agency decided it could intervene with 25 carriers per year, and there were only 100 carriers, 25 would have a high score, even if they were totally safe and compliant. The only relevant data that the hundreds of thousands of small shippers, brokers, and carriers need to know is which carriers are actually unsafe, period.

## 2. Internal Tool

The BASICS are internal FMCSA tools with the express design and purpose to help FMCSA decide where and how it would spend most of its limited time, and resources. No combination of BASICS—even considering all seven BASICS—give even the FMCSA a clear-cut overall carrier safety assessment. BASICS were never intended, nor designed to be used by private industry for carrier selection. By Federal law, a Safety Rating—not the BASICS or any combination of them—is FMCSA’s ultimate determination of a carrier’s fitness or overall safety. You need only look to FMCSA’s own disclaimer language<sup>1</sup> on their website to plainly see that the SMS and its predecessor system were designed specifically and exclusively for law enforcement purposes and not intended for use by non-law enforcement personnel.

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<sup>1</sup> FMCSA SMS Disclaimer: The SMS results displayed on the SMS website are not intended to imply any federal safety rating of the carrier pursuant to 49 USC 31144. Readers should not draw conclusions about a carrier’s overall safety condition simply based on the data displayed in this system. Unless a motor carrier in the SMS has received an UNSATISFACTORY safety rating pursuant to 49 CFR Part 385, or has otherwise been ordered to discontinue operations by the FMCSA, it is authorized to operate on the nation’s roadways.

Statistical ratios, with “alert” symbols, and other overly descriptive internal law enforcement language is not needed or wanted, nor does it provide business with anything positive. Quite the contrary, they only add gasoline to a bonfire already stoked by accident lawyers.

### 3. Slow Expansion

Another major concern of the freight brokerage industry is the very slow expansion of CSA and the vastly large gaps of information in the system. For example, according to FMCSA's data, approximately 77 percent of for-hire carriers in business today, have no Safety Rating. As for the CSA program, 66 percent of for-hire carriers in business today have no visible BASIC score whatsoever. Fourteen months into the CSA program, only about 900-1,000 for hire carriers had at least one visible BASIC score. Many of these unrated carriers are small businesses.

The problems with CSA data and implementation are well documented and are being addressed here at this hearing as well. My remarks will be centered around the specific issue of vicarious liability and negligent hiring.

## How the Courts Changed the Game

### 1. New Standard of Care

The company that my grandfather built from the ground up is similar to every licensed proper broker registered with the FMCSA. Every time my company contracts a load with a carrier, I find myself holding my breath hoping that this is not the time that I am subject to a vicarious liability or negligent hiring lawsuit that would place my company out

of business. The major catalyst that led to these crippling lawsuits was the *Schramm v. Foster* decision in 2004. In Schramm, the court established a new interpretation of the responsibility, known as the duty of reasonable care. Subsequent courts expanded and redefined the responsibilities of parties engaging independent contractors, and settlement and/or jury awards have grown exponentially. These succeeding cases build upon the Schramm case, which basically established an aberrant precedent that contends that brokers and shippers should second guess the FMCSA's decision of which carriers are safe to operate by examining the safety record of each carrier before use. Doing something less, may be deemed by certain courts in certain districts, or in certain states as "negligent entrustment" or "negligent hiring." This second guessing scenario is why the relative scores of CSA and SMS are so dangerous. Is a carrier with a score of 62 more dangerous than one with a score of 60, for example? If that is true than why not use only carriers with a score below 50 and shut all the other carriers down? The reason not to do this is that a relative safety system is fine for internal use, but dangerous when made public. Good carriers will be hurt by shippers and brokers refusing to use them because their score may seem high. Good brokers and shippers will be sued because they used a carrier with a high score. Again, these are relational scores to trigger audits. Does the Internal Revenue Service make public their audit ratios? The answer is no, and it should be no for FMCSA as well.

## 2. New Standard of Relationship

Courts have also changed the nature of the relationship between 3PLs and carriers from independent contractor to that of an agency, thereby, creating a vicarious liability scenario. These agency cases are twisting the arrangements between the broker and

carrier alleging that the broker exercised enough control over the carrier to make the carrier a part of the broker. The travel agent does not become the agent of the airline in an aviation accident. The lawsuits are becoming more frequent and the verdicts vary greatly between federal and state courts. Verdicts have ranged from \$1 million to more than \$20 million.

The situation that I have described above can be directly compared to that of a travel agency. It should not be the responsibility of the travel agency to ensure that a particular airline is safe to operate, that is and should be determined by the Federal Aviation Administration (FAA). Furthermore, a travel agency should not have to second guess the FAA, and they should not be held liable for millions of dollars in potential lawsuits for booking a passenger on an "unsafe" airline.

There can be no question that the brokerage industry seeks to promote higher safety standards for our nation's highways. That being said the brokerage industry is displeased with the current state of affairs with courts holding 3PLs and shippers to an ever changing standard in carrier selection. Only a higher court or Congress can re-set this standard to one that is more reasonable and static. It should not be the responsibility of industry stakeholders and companies like mine to determine which carriers are safe to operate on American highways. It should be the sole responsibility of the Agency charged with issuing licenses to carriers and making sure those carriers adhere to safety standards established by the Agency to tell the public which carriers are safe-to-use and which carriers are not.

CSA and the Safety Fitness Determination (SFD)

As an industry that is made up of thousands of small businesses we need a single, clear cut safety standard from the Federal agency which was established to reduce the number of accidents, and is responsible for the overall safety of motor carriers – the Federal Motor Carrier Safety Administration (FMCSA). FMCSA itself seeks to utilize CSA to establish a clear cut safety determination. The CSA process, however, has been unsettling, and has raised much concern in the entire transportation industry. There is a great misunderstanding of how the BASICS within the CSA system for each carrier are determined, and these BASICS are relative scores with only a passing correlation to actual safety. These scores are to determine intervention targets. This information is for the Agency's internal use, not for public consumption, which makes it difficult for the public to understand if a carrier is safe or unsafe to operate on the nation's highways.

There is no question that the CSA initiative is helping FMCSA, but for its possible uses by the public it has a long way to go. How are companies like mine supposed to determine which carriers are safe to operate on our nation's highways when over 80 percent of carriers are unrated? FMCSA needs to get back to addressing their primary mission of safety by providing industry with accurate and reliable data, and from this data telling the public who is safe to operate and who is not. It is not the responsibility of industry to make the safety fitness determination of motor carriers. The only way to accomplish this task is for FMCSA to develop a Safety Fitness Determination (SFD). However, we do not want FMCSA to develop a SFD, prior to addressing industry concerns regarding the methodology used to evaluate carriers BASIC scores and percentages.

Until the Safety Fitness Determination (SFD) rulemaking is developed for public comment and ultimately developed into a final rule, we recommend:

1. That FMCSA define "high risk" carriers; make it clear which carriers belong in this category; and provide this information to the public on a daily basis in an electronic format. Safety would improve because consumers of carrier services would avoid using such carriers.
2. That FMCSA immediately convene a CSA subcommittee of the Motor Carrier Safety Advisory Committee involving all relative stakeholders to work with the Agency to bring industry perspective on how to "fix" CSA before moving into a formal rulemaking.
3. When the SFD is posted in the Federal Register and open to public comment, the industry will seek a rating system from FMCSA that rates all carriers as either safe to use or unsafe to use, and thus eliminate the traps that exist with a three of four-tiered ranking system.
4. We request that this Committee as the General Accountability Office to review CSA in light of their review of the Agency's previous relative safety system.

#### Conclusion and Legislative Fix

In conclusion, TIA supports FMCSA and its mission to improve motor carrier safety on the nation's roadways. TIA appreciates the economic strength our nation gains from small business motor carriers, brokers, and manufacturers. TIA will work productively with industry participants, FMCSA and Congress to ensure that FMCSA publishes a safety

fitness determination for all motor carriers that is based on accurate and fair data, and that does not discriminate based on carrier size or type. When the SFD rulemaking process begins, the industry asks Congress to carefully review the Agency's actions to ensure that quality data is utilized and fair and impartial processes are followed, and that a clear safety fitness determination is established for every carrier.

While the industry views the SFD as an important corrective action to alleviate the vicarious liability concerns, unfortunately, it is not the only action that is necessary. We ask Congress to develop a legislative fix similar to the Graves Amendment enacted in 2005 as part of the SAFETEA-LU highway bill. The statute abolished the vicarious liability of companies that rent or lease motor vehicles based on the negligent driving of their customers. This amendment would create a uniform standard against liability without fault by preempting state vicarious liability laws imposing liability on non-negligent transportation brokers.

I appreciate the opportunity to testify before the committee today on the concerns of CSA and its effects on small business owners whether that is the third-party logistics provider, small carriers, or the entire supply chain. I would be happy to answer any questions.

# The Economics of Safety: How Compensation Affects Commercial Motor Vehicle Driver Safety

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Commercial motor vehicle (CMV) drivers usually paid on a piecework basis, which is a source of confusion and misunderstanding for public policy makers. While this is almost universally true for intercity truck and bus drivers, it has become routine in recent years to pay local drivers – especially owner-drivers – a flat rate per move or a percentage of revenue earned by the shipment, rather than an hourly wage. Generally road drivers are paid by the mile (or a percentage of revenue) and not paid for loading, loading, and other delays (Burks et al. 2010). This leads to strong incentives to lie on one's logs, logging only "paid" time (driving time) on duty and logging all other work time as "off duty" in order to conserve hours available to work. Since surveys suggest that 25% of the average driver's day is unpaid non-driving time, this can easily mean that truckers can drive as much as eleven hours and work an additional three hours more than they log every day, and still appear to be legal. But they're not. This undocumented fatigue and documented work pressure contributes substantially to crashes.

## **I. Introduction**

Compensation can influence worker behavior in several ways. Yellen suggests that an employer paying higher than average "efficiency" wages (wages above the market-clearing level that serve to attract a superior workforce) will discourage workers from "shirking", or failing to put full effort into their work, since losing their job imposes a cost on the worker (they reduce their chances of getting another good job and risk sinking to a lower tier company). If the cost of monitoring workers is higher than that of increasing wages, Yellen argues that this can be a cost-efficient way for the employer to elicit effort from workers (Yellen 1984). In addition to the level of compensation, the type of payment also can influence worker behavior. The "piecework" payment system has a long history of providing an incentive for workers – especially transport workers in general and contract workers in specific – to increase their effort (Belzer 2000, 2011). While the efficiency wage argument appeals to the long-



run interest of the worker to maintain employment, the piecework system is designed to create an immediate incentive to increase production by paying higher wages to those workers who are more productive.

Almost all both truckload (TL) and less-than-truckload (LTL) intercity drivers are paid by the mile or in some manner by the load, rather than an hourly wage. This method of pay is so pervasive that in the industry, mileage often is the sole determinant of compensation, regardless of what other work the driver does.

The treatment of loading and unloading time is a good example. Drivers frequently wait long periods of time for their loads, and in many cases must load or unload their own freight. However, these drivers are underpaid, relative to the value of their driving time, or not paid at all, for this work. This paper raises the hypothesis that while these compensation practices may be useful in getting drivers to work harder, they also create incentives that threatens public safety and security (Belzer and Swan 2011).

Both the method and level of compensation in the trucking industry create short-run economic incentives that may lead to unsafe driving practices. These behaviors may include neglecting safety inspections and repairs as well as driving too fast for conditions (and faster than legally allowed). Because long work hours, especially when driving, is associated with intensified health and safety risks, truck drivers' hours of driving and hours of work ("hours of service", or "HOS") have been limited since the 1930s (Belzer 2008; Belzer et al. 1999; Belzer et al. 2002; for a brief history of this regulatory framework, see Belzer 2000).

Piecework compensation practices, along with unpaid non-driving labor time, can lead drivers to work more than the number of hours allowed by the hours-of-service rules. Drivers may require a minimum or 'target' level of income that is necessary in order to meet basic living expenses. If the mileage rate is sufficiently low so that this target cannot be reached, drivers may feel compelled to work more hours than legally allowed, and economic theory supports this expectation. The risk created by these incentives may be greater under conditions where non-driving time earns a lower rate per hour relative to that earned when driving, or not paid at all for loading and unloading. In these instances, there is an incentive to underreport the amount of time spent on the lower- or un-paid loading time in order to conserve available hours for the relatively higher paid driving time. This underreporting of loading and unloading time, combined with additional driving time to make up for this unpaid time, means that drivers might often work – and drive – more hours than allowed by law.

While this may provide short-run economic benefit to the drivers, in the end it would cause truck drivers to provide an excessive supply of labor to the marketplace for a fixed number of workers, driving wage rates down and encouraging additional hours of work. Given a fixed labor market, each

individual driver will tend to work more hours than allowable and this “sweating” of labor will encourage each individual driver to work even harder and longer, increasing the number of hours provided to the market and effectively expanding the labor market artificially, increasing all drivers’ crash risk accordingly. These longer hours create safety concerns that affect not only the industry but the broader population as well. If the market for individual driver services insufficiently captures the cost of this additional safety hazard, it would create a market imperfection that might have significant policy consequences. In short, low driver wages and poor working conditions impose a real and tragic cost to the nation through decreased highway safety.

## **II. Theory and Evidence**

### ***Introduction***

Employee earnings levels and the method of compensation likely have an influence on employee behavior. This research shows that the level and method of compensating truck drivers affects their driving and non-driving behavior, which ultimately influences their involvement in crashes.

Truck driver attitudes and behaviors have been studied in various contexts. In most cases, the motivation for these studies is to understand the immediate mechanisms that influence certain driver behaviors. These studies, however, often focus on particular behaviors (e.g., speeding, working – and especially driving – excessively long hours, and not getting enough sleep) rather than confronting the factors that motivate such behaviors at different organizational levels. Such factors can include economic pressures, personal characteristics, pay rate, and the compensation method itself, among others.

From the driver’s perspective some consideration has been given to the compensation issue and its influence on safety. Pay level has been studied more consistently than pay method. Low levels of pay have been considered by many as a motivator of long driving hours, illegal substance use, the onset of fatigue, and other practices and phenomena (General Accounting Office - U.S. Congress 1991; Hensher et al. 1991; Saccomanno, F. F., Craig, and Shortreed 1997). Other studies, however, have suggested that truck driver compensation level has a less important role than the one regularly attributed to it (McElroy et al. 1993).

Groups of drivers participating in different focus groups have characterized the prevailing piece rate (per mile) compensation method as limiting income and encouraging cheating (Cadotte, Sink, and Chatterjee 1997; Mason Jr. et al. 1991). Drivers readily identified the compensation system in place as a motivation for unsafe driver behavior. Piece rate systems coupled with hours of service regulations limit the income opportunities of drivers (Chatterjee et al. 1994). Forty-five percent of respondents to a New York State

driver survey thought it would be useful to pay by the hour in order to reduce driver drowsiness (McCartt, Anne, Hammer, and Fuller 1997b).

Management also has recognized the importance of better understanding driver compensation. A 1995 mail survey of 1,464 drivers at 57 for-hire truckload dry van, flatbed, refrigerated, and tank carriers showed that an overall driver compensation factor emerged as the important dimension for human resources improvement (Stephenson Jr. and Fox 1996). Similarly, in a survey of 148 trucking company personnel managers, other researchers found that managers believed that pay level was the most important factor in drivers' choice of motor carriers for employment (Southern, Rakowski, and Godwin 1989).

Work pressure and economic pressure have contributed to workplace hazards and even "disasters" across many industries and countries. A recent report on the Massey mine explosion, for example, points directly to the role of economic pressure and the very real drive for profits as a primary cause of catastrophic industrial safety failures. A study by the West Virginia Governor's Independent Investigation Panel charges that the 2010 explosion that claimed the lives of 29 miners was an entirely preventable disaster that resulted from the fact that "Massey Energy put coal production ahead of safety" (Berkes 2011; Governor's Independent Investigation Panel 2011). Studies from Australia, which is in many ways similar to the United States, have consistently found economic pressure to be the root cause of safety problems in the trucking industry (Quinlan 2001; Quinlan, Mayhew, and Johnstone 2006). The same economic pressures have been found to be at the root of major safety failures in Australian mining (Quinlan 2007; see especially paragraphs 818 and 836), U.S. oil extraction (Crooks 2011; National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling 2011; Urbina 2010), and in airlines (National Transportation Safety Board - U.S. Department of Transportation 2010; Young 2010).

### ***The Role of Employee Compensation***

Compensation generally acts as a pricing mechanism, but compensation's impact on employees, especially drivers, is much more complex. As a method of allocating resources, employee earnings are a pricing mechanism used to direct labor to its most productive use. This function, very much in line with traditional microeconomics, explains variations in the distribution of earnings as emerging from the interactions of supply and demand where certain observable characteristics are taken into account.

A second role of compensation is to serve as a tool for social stratification and cohesion. In this role, employee earnings are seen as a prime determinant of standard of living. Earnings play the role of providing social legitimacy within organizations and society. Compensation policies play a role in determining what is a "fair" wage level (Akerlof, Rose, and Yellen 1988; Akerlof and Yellen 1988, 1990).

No previous study has utilized efficiency wage theory to explain CMV driver safety. Compensation can serve as a management tool to elicit higher employee effort and align employees' core skills with the organization's interests. Multiple theories attempt to explain the role of pay in the employment relationship. They include the transaction cost perspective (Williamson, Oliver E. 1975), where opportunistic behavior is to be minimized, as well as the efficiency wage approach (Holzer 1990; Lazear 1990; Weiss 1990; Yellen 1984), in which above-market wages result in desired behavioral outcomes for a group of employees. These outcomes can range from reduced shirking and enhanced effort (Yellen 1984) to adherence to hours of service regulations, behaviors oriented towards reducing risk of fatigue and dozing while driving, and generally safe-driving behaviors. However, safety research generally has steered toward behavioral explanations and avoided economic explanations, and efficiency wage theory may provide a better explanation for outcomes.

Recent changes in wage structures, such as the impact of economic deregulation, have created increased interest in the roles that compensation plays in society (Rubery, Jill 1997). Belzer traced the post-regulation transition from regulation-related truck industry segmentation to market segmentation, and the resulting impact on industrial relations, including compensation practices. He modeled wage levels as a function of a variety of firm-level factors including industry segment, average haul, unionization, market share, profitability, and location variables such as urbanism and regionalization. Unionization and industry sector (LTL) were most strongly associated with higher wages. He also found that market share affected wages positively (consistent with previous findings) as did location (Southern carriers had significantly lower wages) (Belzer 1995a).

### ***Compensation Level***

Compensation level is often framed in the context of a hierarchical conception of pay (Milkovich and Newman 1993), where the compensation system is disaggregated into its fundamental components, such as method, level, changes in earnings over increasing job tenure and similar factors. Employee compensation is understood as the overall employee earnings during a specific period, including direct compensation (e.g., wages) and deferred compensation (e.g., pension plans).

#### ***Direct Compensation***

Organizations can have varying pay levels, depending on the flow of work and the organization, yet we often observe pay differences between similar jobs in similar organizations (Chen 1992; Leonard 1987; Seiler 1984). Weiss provides a useful summary of issues associated with direct compensation (Weiss 1990). The literature consistently shows that increases in relative wages (after controlling for occupation and human capital) are associated with increases in productivity.

In a series of studies of driver compensation using individual driver-level data, cross-sectional motor carrier data, and individual driver survey data, researchers showed that the relationship between compensation and safety ranges from .92:1 in the cross-sectional study of 102 TL carriers to as much as 4:1 in the firm-level case study of JB Hunt (Rodriguez et al. 2003; Rodriguez, Targa, and Belzer 2006; Belzer, Rodriguez, and Sedo 2002). In the Hunt study, researchers found that for every 10% higher driver pay rate, at the mean, drivers had a 34% lower probability of crash, month-to-month. In addition, for every 10% of pay raise, drivers had a 6% lower crash probability (Rodrigue 2006; Rodriguez et al. 2003; Rodriguez, Targa, and Belzer 2006). In the cross-sectional study, for every 10% higher compensation level for truck drivers working for non-union truckload carriers, the carrier had a 9.2% lower crash rate. The driver's mileage pay rate explained half the difference and other compensation factors explained the remainder (Belzer, Rodriguez, and Sedo 2002). Finally, an individual survey conducted by the University of Michigan Trucking Industry Program showed that at the mean, a 10% higher compensation level predicted a 25% lower crash probability for the year.

There is less agreement about the magnitude of the effects and whether the increase in productivity can pay for the wage increase (Levine 1992). It also is difficult to disentangle cause and effect, or whether the effect is due to selection or performance incentive.

#### *Efficiency wages*

A “market-clearing” wage clears the market of unemployed workers – absorbs all available unengaged labor or achieves full employment in a specific labor market – at a compensation level sufficient to attract enough workers to the jobs that pay enough to attract labor to do them. Markets do not clear when companies offer workers a lower package of compensation than they could get doing something else. This is why economists argue that there is no such thing as a “labor shortage” in any labor market but rather a shortage of compensation sufficient to attract labor. As demand for labor increases, companies should be willing to raise wages enough to attract the necessary labor.

Theorists of “efficiency wages” argue that some employers do not pay market-clearing wages. Instead, they offer above market-clearing wages that induce employees to be more efficient. This efficiency increase can occur in several ways.

Reduction in shirking. Since employees have a higher compensation level with efficiency wages than they would have otherwise, the cost of discharge due to shirking behavior is higher. This reduces worker shirking because the job they have already rewards them above the average market-clearing wage for the industry, and if they lose their job because of poor performance they likely will

have to take an inferior job.<sup>2</sup> Some research suggests that greater wage *premia* are in fact associated with lower levels of shirking as measured by disciplinary dismissals (Cappelli and Chauvin 1991; Yellen 1984). However, shirking and discipline also are dependent on whether a worker sees the relationship between shirking and the difficulty in finding alternative employment (Groschen and Krueger 1990).

Quality of workers. It is reasonable to expect, and empirical research has shown, that high compensation levels attract more qualified workers than do lower compensation levels (Chen 1992; Groschen and Krueger 1990). This is the “creaming effect.” Acting as a mechanism for selection, the compensation level attracts more productive employees. Positive consequences often associated with having a more qualified pool of workers include the reduced need to supervise employees and a reduction of employee shirking. For example, Groschen and Krueger found that hospitals that paid high wages to staff nurses employed fewer supervisors (Groschen and Krueger 1990). It is unclear, however, if this is due to greater work effort from the average existing nurse workforce (the efficiency wage) or because higher wages attract better nurses who needed less supervision (the creaming effect).

Turnover costs. Higher wages may tend to reduce turnover. Turnover costs include advertising, search, and training costs (Arnold, Hugh J. and Feldman 1982; Becker 1975; Chen 1992; Cotton and Tuttle 1986; Salop and Salop 1976). One study of high school graduates correlated higher wages with longer job tenure (Holzer 1990). The turnover effects frequently are hard to determine because few companies evaluate their recruiting programs well enough to show that higher wages did in fact allow them to choose superior applicants.

#### *Wage-deferral*

Scholars who advance the wage-deferral model argue that, in order to invest in human capital, firms need to obtain long-term commitments from their workers. Firms under-invest in employee training because of the turnover threat. Requiring workers to share in the firm-specific investment in human capital is a way of receiving this commitment. Such a sharing arrangement is achieved, for example, by having workers earn below-market wages during the early years of employment in the firm; during later years they earn above market wage, reflecting a return on this investment. This is similar in nature to the use of deferred compensation to encourage lower turnover, as shown later. Proponents argue that the wage deferral profile can be used to favor older workers (Ippolito 1991), dissuade workers from shirking (Lazear 1979), or attract a higher quality of workers (Salop and Salop 1976).

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<sup>2</sup> In economic language, “shirking” is failure to work to one’s maximum capacity or, conversely explained, to reduce one’s effort to match one’s own image of his/her value. If someone thinks he/she is underpaid, then he/she will “shirk” to reduce output accordingly, in reciprocal fashion.

*Incentive theory*

Incentive theory is related closely to efficiency-wage theories for motivating higher employee effort. There are several incentive-based theories among which content and process theories are very relevant. Content theories focus on what motivates employees. The two most popular content incentive theories, Maslow's hierarchy of needs (Maslow 1954) and Herzberg's hygiene theory (Herzberg 1966), include pay as an important factor in employee motivation (Milkovich and Newman 1993). In the former, pay supplies a series of basic needs: e.g., the need to acquire food and shelter. Beyond attending basic needs, pay also can be associated with other higher needs, such as recognition and satisfaction at the workplace.

*Equalizing differences theory*

This theory is based on the thought that low employee monitoring goes hand in hand with low wages. The theory assumes that employees dislike being monitored, and therefore closely supervised workers will insist on higher wages because they need to be compensated for the lack of privacy. The romantic notion of truck drivers as "highway cowboys" who enjoy a high degree of independence to a degree supports the assumption of the equalizing differences theory.

In the context of the trucking industry, the equalizing differences theory may be linked to the argument behind *Pedal to the Metal: The Work Lives of Truckers* (Ouellet 1994), though this link may not be straightforward and may be ambiguous. In his book, Ouellet argues that truck drivers are a unique group with specific tastes that are significantly different from the tastes of the average workforce. Drivers who work for extrinsic value work for the money, and earn more money in trade for greater supervision and lower status equipment. Drivers who work for intrinsic value, on the other hand, will trade substantially lower earnings to get independence. Recent data collected by the author in cooperation with the Owner Operator Independent Drivers Association strongly supports this hypothesis, since they are among the lowest paid truck drivers in the U.S. (Belzer 2006), although this same result may be attributable to the myth of the "American Dream" (Chinoy 1965) or the need to "buy" a job, since a substantial fraction of trucking has shifted to subcontractors across many sectors.

*Fair wage theory*

This is yet another conception of efficiency wages based on the idea that "fairness" provides explanations for (a) wage compression, (b) the positive correlation between industry profits and industry wages, and (c) the inverse correlation between unemployment and skill. The fundamental hypothesis is that in industries where it is advantageous to pay some employees highly, it is considered fair also to pay other employees well and hence the "fair wage/effort hypothesis" (Akerlof, Rose, and Yellen 1988; Akerlof and Yellen 1990; Milkovich

and Newman 1993; Rice, Philips, and McFarlin 1990). In other words, in some industries and firms, high wages paid to one group must also be paid to another or tensions may arise due to the perceived inequity. Other theories incorporating the notion of fairness and similar social norms include the rent-sharing (Levine 1992) and reciprocal-gift models (Burks 1999; Milgrom and Roberts 1992).

### ***Compensation Method***

We now move from compensation level to the way workers are compensated. Compensation methods that deviate from the traditional time rates and salaries have become more popular. Most of these new compensation methods attempt to align the employee's interests with those of the firm. While performance-based methods have a long history in some areas of manufacturing, they have become increasingly common in other industries and particularly in the service sector. Piecework, where pay is related directly to specific units of output, is a common performance-based pay measure, as is incentive pay, which provides bonuses for meeting or exceeding a target output. In the next section we focus on piece rates and time rates and their implications for individual and firm productivity. We focus on these two methods of direct compensation because of their prevalence in the trucking industry.

#### *Direct Compensation*

Applied at the individual level, piece rates give individual financial recognition to more productive or harder-working employees who are thus encouraged to work more intensively. Because they are tied so closely to output, piece rates provide incentives for employees to exert themselves to produce more output and generate firm revenues.

Research on compensation methods and piece rates vis-à-vis time rates has developed over nearly 40 years (Keselman, Wood, and Hagen 1974). In most of the work reviewed, individuals receiving pay contingent on performance were more productive than individuals on a time-pay basis (Ferne and Metcalf 1996; LaMere et al. 1996). For example, in a recent study of tree planters in British Columbia, workers compensated under piece rates produced more, on average, than those on time rates. Interestingly, however, the productivity of piece-rate planters fell with the number of consecutive days worked; a similar result was obtained in a study of copper miners (Paarsch and Shearer 1997; Shearer 1996). This result becomes especially important in understanding the effects of long daily and weekly working hours on the trucking industry, in terms of both driver productivity and safety.

If piece rates produce higher output, one would think this should be reflected in higher worker earnings. In a study of over 100,000 employees in 500 firms within two industries, Seiler (1984) examined the effect of piece rates on employee earnings and the impact of incentives on earning. He observes two



incentive effects. First, incentive workers' earnings are more dispersed (i.e., the distribution is wider) than identical hourly workers' earnings. Second, on average the incentive workers earn 14% more money, controlling for other factors. This premium is partly a compensation for the greater variation in their income and partly a result of an incentive-effort effect (Seiler 1984).

Two interesting questions emerge from these results. First, does contingent pay, or more broadly, do productivity-based incentives, actually increase productivity (the motivation effect) or do they simply attract the most productive workers (the sorting or selection effect) because they seek the opportunity for greater earnings given their current level of human capital (Blinder 1990; Lazear 1995)? This is similar to the issue raised by compensation-level effects on workers' productivity and behavior. Second, the contingent pay passes part of the earnings risk to workers. Therefore, risk-averse workers may prefer time-rates, which further strengthens the sorting mechanism described above.

Advocates of the sorting effect argue that piece rates differentially attract workers who are harder working, or who are more productive, than are those attracted by hourly rates, *ceteris paribus*. By eliciting higher effort levels, the effect of piece rates on earnings produces an "earnings effect." Piece rates also affect other non-earnings situations. For example, a break or a visit to the restroom has a high opportunity cost for the employee working in a piecework compensation system; for a truck driver, who earns his living only when the wheels turn, a rest-stop or "pit stop" during the day has a substantial productivity and hence earnings cost. Therefore, given the choice, people who are more apt to increase effort intensity and effort duration may choose piece rate methods, while individuals who value the negative non-earning consequences more than the positive earnings consequences of piece-rates may tend to select time-based pay schedules. In a study of agricultural workers, Rubin and Perloff found that the non-earnings effect captures the change with age in a worker's relative taste for piece rate work. For the very young and very old, the non-earnings effect of age dominates the earnings effect (Rubin and Perloff 1993). For trucking, with almost all intercity drivers and an increasing fraction of intracity drivers working on incentive-based pay systems, the "choice" may be to accept the piece rate system or choose another line of work.

Piece rate compensation is attractive to business because it seemingly solves the problems associated with adverse selection and moral hazard.<sup>3</sup> In addition, by paying piece rates, the firm allows workers to receive the full value of their own marginal product, thereby eliminating some of the firm's *a priori*

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<sup>3</sup> In economics, "moral hazard" is the tendency of people to spend more of the money that is not theirs or the time for which they do not pay. Moral hazard cuts both ways, however. From the employer's perspective, shirking is a moral hazard. From the employee's perspective, unpaid time is a moral hazard. From the trucking firm's perspective as well as from the driver's perspective, unpaid loading and unloading time and shipper or consignee delays are moral hazards. Shippers and consignees will waste such time because they do not pay for it.

need for information on productivity, thus reducing monitoring costs (or transferring that cost to the worker). Arguably, these incentives may also reduce the need for employee monitoring and observation to determine individual merit or performance pay necessary when using other compensation systems.

Piece rate compensation, however, can bring some disadvantages. As indicated above, it introduces a source of randomness into workers' earnings. In addition, piece rates alone encourage employees to ignore other valuable activities. As a result, piece rate workers are tempted to reduce quality to increase measured quantity and engage in other non-productive activities (Burawoy 1979). Another commonly cited disadvantage of piece-rate compensation is the difficulty of observing actual productivity (information and observation problems), which may lead to shirking behavior in the short term (Gibbons 1987).

Bloom and Milkovich suggest that adverse selection and moral hazard, as described above, only tells part of the story of the effects of piece rates. The problem is one of "principals" and "agents", where the firm is the principal and the employee or subcontractor is the agent. That is, firms might act to align the workers' interest with their own through the use of payment incentives, but its effect on agent behavior may be more complex than typically assumed by agency-based research. The incentives and earnings risk-sharing tradeoff, for example, might lead to the imposition of "greater uncertainty in the employment relationships" or other adverse outcomes (Bloom and Milkovich 1995). Other responses to incentive payments may also affect the individual and organizational climate. We review these in subsequent sections.

A 1991 National Research Council Panel study commissioned by the U.S. Office of Personnel Management to assess the contemporary research literature on employee job performance and performance-based pay concluded that individual incentives (including piece-rates) can have positive effects on performance, though the context of implementation remains important (Milkovich et al. 1991). The report cites some negative consequences of incentive pay, including the neglect of aspects of the job not covered in the incentives, encouraging gaming or reporting of invalid data, and a potential clash with group norms (as suggested by Burawoy above). Scholars conclude that individual incentive plans are inappropriate in the presence of high task complexity (Brown 1990, 1992) and the focus on quality rather than quantity. For trucking, of course, the safety risk associated with piecework has been a long-standing issue.

There is limited literature associating compensation methods and safety outcomes. Hopkins, as cited in Hofmann, argued that incentive pay was not the root of unsafe behaviors in several coal mines studied (Hofmann, Jacobs, and Landy 1995). Instead, the organizational climate fueled unsafe behaviors, as did the workers' perceptions of the nature of the job (e.g., being unmanly to

be careful and safe) (Hofmann, Jacobs, and Landy 1995); Ouellet alludes to this paradox in his research on truckers' culture (Ouellet 1994).

Research on safety in the trucking industry has shown that compensation level, however, is associated with safety, as drivers will tend to work exceedingly long hours when compensation is low – contributing to safety risk – and the ability to earn substantially more than in a comparable hourly-paid job simply by sweating one's labor and working more hours will make the industry attractive to workers who cannot get comparable earnings elsewhere (Belzer, Rodriguez, and Sedo 2002; Rodriguez et al. 2003; Rodriguez, Targa, and Belzer 2006).

#### *Deferred Compensation*

The lower labor turnover found in large firms relative to smaller firms has been cited by some as evidence that large firms pay workers above their opportunity cost (Even and Macpherson 1996a). Large firms, they argue, can afford efficiency wages. Several studies have disputed this claim by investigating an alternative possible explanation: size-related differences in the availability, portability, or generosity of pension plans (Even and MacPherson 1996b). Pensions, as wage-tilts discussed in the previous section, can be a mechanism for encouraging long-term employment relationships beneficial to firms. Other mechanisms, such as up-front fees and bonds, are rarely actually observed, but steep age-earnings profiles and deferred compensation plans are equivalent to bonding in their effects on behavior. Several scholars argue that deferred compensation (e.g., pension plans, profit sharing, contribution thrift, ESOPs) directly substitutes for employee wages (Lazear 1979, 1995; Salop and Salop 1976). Arvin argues persuasively, however, that in imperfect capital markets where individuals cannot borrow freely, deferred compensation and wages are not perfect substitutes (Arvin 1991).

Research in the worker mobility literature finds lower turnover in jobs covered by defined benefit pensions than in other jobs. Turnover is only about half as great for workers covered by pension plans as for workers without pensions, supporting the hypothesis that pensions (which act as deferred compensation) discourage turnover. This relationship remains consistently strong even after controlling for other factors such as pay level, union membership, and tenure (Gustman and Steinmeier 1994). Ippolito found that pensions increased tenure in the firm, on average, by more than 20 percent (Ippolito 1991). Lazear argues persuasively that the pension plan's vesting provisions affect turnover the most and constitute the real incentive effect (Lazear 1990). Other research shows that capital loss is the main factor responsible for lower turnover in jobs covered by pensions, but self-selection and compensation levels also play an important role. Allen provides direct evidence that bonding is important for understanding long-term employment relationships (Allen, Clark, and McDermid 1993).

This research on truck driver pay and safety will support these findings, with the added caveat that few non-union truckload drivers and virtually no owner-drivers can look forward to pensions. Their current rate of turnover, in excess of 130% per year, supports this hypothesis as well. In sum, the only truck drivers with defined pension benefits today work for unionized – generally Teamster – motor carriers, and those pensions are at risk due to declining participation rates at a vanishing number of unionized carriers. While one may argue that deunionization has pushed the argument to the margins, the high truck driver turnover rate and the alleged “truck driver labor shortage” (Global Insight Inc. 2005) have helped to exacerbate the safety problems that safety advocates have articulated.

A self-selection concern similar to the effect of efficiency wages also occurs with pensions. Employees prone to have lower career mobility (such as truck drivers) would tend to prefer deferred compensation. The study cited above found virtually no association between firm size and labor turnover for workers not covered by a pension (Even and Macpherson 1996a).

Two alternative interpretations are plausible. First, larger firms may tend to select a method of compensation (Soguel 1995) that actually increases turnover and crash rates (Brown 1990, 1992). Second, pensions were not included in the study, so the correlation may be a result of the mere existence of a pension plan or its vesting characteristics (Lazear 1990, 1995).

Several unresolved questions about deferred compensation remain. First, the pension loss involved in quitting could be offset by a salary increase. This means that deferred compensation is relevant in the context of the entire level of compensation. Some scholars argue, for example, that firms offering deferred compensation tend to have higher compensation levels overall. For this reason, perhaps it is not the existence of deferred compensation (which is merely a compensation method), but its existence in the context of other compensation and the overall level reached (Gustman and Steinmeier 1993). Second, low turnover rates have been observed for employees under both defined contribution and defined benefits plans, which suggests that pension portability is not an issue but rather this may reflect an unobserved sorting mechanism that is causing the turnover reduction (Arvin 1991). This may be an issue in trucking, however, since turnover generally is high in the non-union TL sector and therefore drivers may be unable to vest and to take advantage of defined contribution pensions (Belzer 2000). In other words, it may not be the presence of a pension plan but rather the individual's anticipation of a pension (or anticipation of the absence of a vested pension) that may govern turnover.

Finally, this discussion has assumed that compensation levels and methods are independent of one another. Chen tested inter-industry wage differentials across different methods of pay. He argued that his evidence showed that efficiency wage considerations are less important for piece-rate wages than for time-rate wages under three efficiency-wage-related models:

adverse selection or worker-quality, turnover, and shirking models. In the main, he concludes that industry wage differentials are less prominent in piece-rate compensation (Chen 1992). The importance of this finding will be apparent in subsequent sections.

Other studies assume that compensation method is an exogenous variable. A limited number of studies viewed compensation method as a firm policy variable (Brown 1990, 1992; Gustman and Steinmeier 1994). Along these lines, Brown found lower inter-industry wage differentials among workers under piece rates than under time rates. Gustman and Steinmeier argue that wages and pensions (or other forms of deferred compensation) are determined simultaneously by the firm and therefore single equation models tend to bias this relationship.

### ***Economic Competition and Work Pressure***

Compensation method and level of compensation may both be related to the general economic pressures associated with competition. The customers of trucking and other freight transportation operations are the shippers and receivers (“consignees”) of goods; for passenger transportation, the customers are those buying the tickets to ride the conveyance. Since deregulation, these customers increasingly have become the controlling parties in freight and passenger transportation. Indeed, conventional theory of welfare economics considers markets efficient when consumer welfare is maximized. Shippers and consignees effectively act as agents of the consumer, so theoretically our system is working efficiently.

Problems arise when costs embedded in this competition lie external to the market. This occurs when regulations governing the assignment of these costs fail to incorporate all the cost. Deregulation of surface freight transportation sought to promote innovation and competition but did not deal either with the externalized environmental or safety costs. Indeed, evidence suggests that metropolitan sprawl may have been encouraged by deregulation, as the cost of port drayage dropped so low that shippers and consignees moved their warehouse operations far away from ports of entry. In Southern California, for example, commonly drayage trucks haul containers 100 miles away to the Inland Empire, creating congestion (and the demand for more highways), pollution, and safety costs that unregulated markets failed to capture (Belzer and Christopherson 2008; Christopherson and Belzer 2009).

Problems also arise when work pressure created by competition causes CMV drivers to make mistakes that lead to crashes. In a recent study, Belzer found that interstate bus companies in the most competitive sectors – “curbside” bus companies – have more than twice the safety risk than the national average, and compare even more unfavorably with traditional established intercity bus companies, both unionized and non-union (Belzer 2010a). Similarly, in a study of the carhaul sector of the trucking industry, Belzer found that driver safety ratings, measured as driver out-of-service rates

and carrier-level analyses of safety management, were significantly better at unionized carriers than at non-union carriers. Non-union carriers are more likely to subcontract their work to brokers or owner-operators and pay lower rates for the same work (Belzer 2010b).

In a study using the Large Truck Crash Causation Study dataset, Belzer also found that work pressure strongly contributed to the CMV driver's likelihood of being assigned responsibility for being the last driver whose action might have prevented a crash from occurring. Data for the cross-sectional analysis of the causes of large truck crashes come from the Federal Motor Carrier Safety Administration's Large Truck Crash Causation Study (LTCCS).<sup>4</sup> The LTCCS collected approximately one thousand truck crashes intensively, collecting a substantial amount of information. While data were inadequate to determine crash causation based on compensation, substantial evidence supports the conclusion that work pressure contributes significantly to truck crashes. Data were collected from 2005 through 2007 and this study was completed in 2009. It shows that work pressure helps to predict whether the truck driver is assigned the "critical reason for the critical event" associated with the crash. For this study, Belzer consolidated all of the work-pressure factors identified by the LTCCS data-gathering team into an index, and that index, along with Aggression Count, Fatigue, Class Years, Safety Bonus, Hours Driving, and Mileage Pay This Trip (as reported by driver) together predicted 15% of the likelihood that the CMV driver would be identified as the driver responsible for the critical event that precipitated the crash (Belzer 2009b). Work pressure, aggression, and fatigue were the factors positively associated with crash responsibility.

### ***Economic Competition and Subcontracting***

Some researchers have focused on the role of subcontracting in determining safety outcomes. While widespread in many industries, subcontracting has been used intensively in trucking because the work traditionally has been difficult to monitor, making subcontracting (like contingent compensation) a useful way for a principals to structure relationships with agents that align self-interest and reduce shirking and moral hazard. It also is rooted in the history of the "teaming" business, since trucking developed out of horse-drawn wagons, and it made sense for "teamsters" to own and care for their own teams of horses and their own wagons.

Many scholars have long considered subcontracting a vehicle for labor-market segmentation that creates a two-tier system of internal and external labor markets as well as core and periphery labor markets (Doeringer and Piore 1971; Edwards, Reich, and Gordon 1975; Gordon 1972; Gordon, Edwards, and

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<sup>4</sup> For more on this study, see <http://www.fmcsa.dot.gov/facts-research/research-technology/analysis/ltrcs.htm> and the report of the National Research Council's evaluation of that study (Council et al. 2003), located at [http://trb.org/publications/reports/tccs\\_sept\\_2003.pdf](http://trb.org/publications/reports/tccs_sept_2003.pdf).

Reich 1982; Osterman 1978; Piore 1973; Reich, Gordon, and Edwards 1973; Rubery, J. 1984; Sabel 1979; Vietorisz and Harrison 1973). These conceptions of the labor market, and of subcontracting, commonly find that primary or core labor market participants, employed by firms, have significantly better employment and compensation packages, including health and pension benefits, than the packages of similarly situated subcontractors. Indeed, an intensive analysis of owner-operator cost-of-operations in trucking recently showed that owner-drivers who own and drive their own truck and do not employ other drivers or operate multiple trucks earn approximately \$21,000 annually in a combination of net profit and wages, which is about 60% of the compensation earned by non-union employee drivers (Belzer 2006; Belzer and Swan 2011). They often do not have health benefits and rarely have pension plans (Belman and Monaco 2001; Belman, Monaco, and Brooks 2004).

In research conducted in the mid-1990s, and building on research conducted by other Australian researchers (Williamson, Ann M. et al. 1992), Mayhew, Quinlan and Ferris showed the relationship between safety and truck ownership. Identifying problems such as the fragmentation of the industry and the intense competition facing owner-drivers in Australia, they laid out a paradigm that explains the health and safety risk posed by economic conditions in this market, exacerbated by inadequate regulatory controls in Australian long-haul trucking (Mayhew, Quinlan, and Ferris 1997; Mayhew and Quinlan 1997). In a survey conducted a decade later, Mayhew and Quinlan found that the problems facing owner-operators had, if anything, intensified (Mayhew and Quinlan 2006), with even worse consequences for subcontractor owner-drivers as well as other highway users. These findings on the dangers of subcontracting have recently been supported by an examination of growing safety problems in the subcontractor (“regional”) sector of the U.S. airline industry (Young 2010) following the Colgan/Continental Airlines plane crash in Buffalo, New York, in 2009 (see the full NTSB report; National Transportation Safety Board - U.S. Department of Transportation 2010).

### **III Driver Compensation and Driver Safety: Evidence from Trucking Research**

This section addresses the empirical evidence linking compensation level and method to worker safety in the trucking industry. First, we review studies which focus on the effect of various firm characteristics on trucking safety, but which do not directly address the role of compensation level and method. Next we review the studies and papers that have included either compensation level or method in the study of trucking crashes. We also extend the review to include those studies that have correlated compensation with behaviors traditionally associated with high crash rates, such as speeding and violation of hours-of-service regulations.

In perhaps the most comprehensive study of compensation and safety, Belzer, Rodriguez and Sedo studied the effects of compensation using three methods: case study, cross sectional, and survey (Belzer, Rodriguez, and Sedo 2002). The authors looked at driver pay rates, driver raises, and retention in their analysis of J.B. Hunt, using a semiparametric hazard function in an event history analysis (a variant on survival analysis), finding that at the mean, for every 10% in truck driver pay rates there was a 40% lower probability of driver crash on a month-to-month basis (Rodriguez et al. 2003; Rodriguez, Targa, and Belzer 2006). They also found in a cross-sectional study of more than 100 truckload motor carriers, using a logit model that at the mean, every 10% in driver compensation was associated with a 9.2% lower carrier crash rate. This study found that not only was driver pay rate significant, but so were the number of hours of unpaid labor time per mile, the value health and life insurance, and safety incentive bonuses (Belzer, Rodriguez, and Sedo 2002).

#### ***Safety Studies of the Trucking Industry: Firm-Level Characteristics***

A study by the Office of Technology Assessment of the U.S. Congress, *Gearing Up for Safety*, charted the complex possible causal paths of large truck crashes in a comprehensive manner as early as 1988 (Office of Technology Assessment - U.S. Congress 1988). This study traced the factors in the overall causal mechanism influencing truck crashes to macro-social factors such as societal values and market forces, and their impact on macro-structural features such as government policy and legislation, motor carrier industry segment goals, and shipping and distribution interests. The authors of this study saw large-scale social forces and structures influencing two major sets of micro-structural sources of organizational action. On the one hand, federal and state agency actions such as regulations, roadway design, inspection and enforcement had an influence. On the other hand, firm actions related to road operations, driver selection and training, and vehicle maintenance and specifications also played a role. Finally, at the level closest to the actual set of crashes, these researchers focused on factors such as roadway conditions, traffic conditions, other highway users, driver performance, vehicle performance, load characteristics, weather and unpredictable situations. Another causal model also identified management operating practices as a key element in the crash causation chain (U.S. Department of Transportation and Clarke 1987).

In both models, driver error, haphazard road conditions or equipment failure were the immediate determinant of a crash. But Loeb *et al.* pointed out that the direct causes of crashes “may have been influenced by a prior occurrence (for example, insufficient driver training) that may have been affected by an earlier policy action (for example, regulation on driver qualifications). Furthermore, societal values or economic considerations may have prompted adoption of a particular policy” (Loeb, Talley, and Zlatoper



1994). There has been increased attention recently to the importance of the economic conditions facing the trucking industry, and how they can be manifest in after-inflation declines in freight rates, tightening of schedules to meet shipper demands, and increased interfirm competition (Belzer 2000; Hensher, Batellino, and Young 1989; Quinlan 2001; Quinlan and Bohle 2002; Quinlan, Mayhew, and Johnstone 2006; Quinlan, Wright, and National Transport Commission 2008). The National Research Council's Committee for the Review of the Large Truck Crash Causation Study (LTCCS) conducted by the U.S. Department of Transportation's Federal Motor Carrier Safety Administration (FMCSA) likewise expressed concern that data on many such factors potentially influencing truck crashes should have been a priority of the FMCSA (Council et al. 2003), but FMCSA did not collect data with which to do an analysis (Belzer 2009b).

Despite awareness of the complexity of the policy environment and the stochastic nature of the crash environment, the predominant sets of variables found in large truck safety research have been driver characteristics and behavior, load characteristics, vehicle characteristics, and roadway conditions. Relatively little research attention has addressed motor carrier operations (such as compensation level and method) and driver selection and training. Yet both were identified as important in the OTA report (Office of Technology Assessment - U.S. Congress 1988).

A new literature thus is emerging which seeks to take firm characteristics such as these into account in modeling trucking safety. This new literature identifies a number of firm-level characteristics other than the compensation-related variables reviewed in the next section. These include firm profitability, specific firm safety practices, fleet ownership, demographics of the firms' driver force, firm age, union presence, firm size and industry segment.

#### *Firm profitability*

Research suggests firm profitability is one firm characteristic related to safety of transportation operations. Corsi, Fanara and Roberts found that net operating income was not a statistically significant predictor of crash rates, although there was an inverse relationship (Corsi, Fanara Jr., and Roberts 1984). Chow *et al.* found a suggestive association between a carrier's financial condition and its safety performance. They suggested that carriers close to bankruptcy skimp on maintenance, use older equipment, and use owner-operators (Chow et al. 1987). Blevins and Chow further studied the profitability-safety relationship during the post-deregulation era. Using bivariate analyses, they compared results for bankrupt and non-bankrupt firms, and found that bankrupt firms did in fact spend less on insurance and safety, maintenance, and equipment replacement, and also were more likely to have unsatisfactory compliance ratings, but the results were not statistically significant (Blevins and Chow 1988). Corsi, Fanara, and Jarrell found operating ratio (operating expenses divided by operating revenue) as having a statistically

significant and positive relationship with crash rates for Class I and II carriers in 1977 and 1984 (Corsi, Fanara Jr., and Jarrell 1988).

Seeking to improve on these earlier, rather inconclusive studies, Bruning (1989) found that higher return on investment was associated with lower crash rates. He used a 1984 database based upon Bureau of Motor Carrier Safety records of crashes causing at least \$2000 in property damage and federal Financial and Operating Statistics from the Form MCS-50T report of 468 Class I and II general freight and specialized carriers. Bruning made two linked assumptions: (1) that managers substitute among various production-related expenses in order to maximize profits, and (2) that the level of substitution of such expenses as maintenance and training would be reduced given higher flows of revenue. Bruning found that for large firms, carrier profitability was inversely related to the crash rates for all general freight and specialized carriers. He also found that profitability in preceding periods (measured in 1980 and 1982) explained safety performance in 1984 (Bruning 1989).

Moses and Savage utilized a large dataset of 75,577 federal safety audits and crash records from the 1986-1991 period, but did not report statistically significant effects for carrier profitability (Moses and Savage 1994). However, in an earlier analysis the authors found that carriers identified in safety audits as unprofitable did indeed have significantly more crashes (Moses and Savage 1992). Their analyses differed in the type of statistical procedure used and the industry segments examined. They point out the importance of stratifying for or controlling for firm size and industry segment.

Hunter and Mangum measured carrier financial stability using three variables: revenue per mile; net debt to equity ratio, and operating ratio (total annual operating expenses divided by annual gross revenue). They viewed operating ratio as an indicator of a firm's long-term profitability (Hunter and Mangum 1995).

Golbe showed the difficulty of establishing such a relationship in any industry (Golbe 1986). Golbe's own cross-sectional study of the airline industry found no statistically significant relationship between profitability and the square root of total crashes, although note that the number of firms and number of crashes is much smaller in the airline industry than in trucking. In addition, higher levels of federal oversight of maintenance in the airline industry may result in less between-firm variance in crashes. Most importantly, however, Golbe concluded that data on firm risk preferences and the specific cost and demand conditions in the industry are necessary in order to test the relationship between profitability and safety (Golbe 1986). Furthermore, Chow has pointed out that short-term profitability is but one dimension of the financial condition of a firm, and may not reflect the longer-range strengths or weaknesses of a firm (Chow 1989).

More recently, using driver compensation data from Signpost, motor carrier crash data from the Motor Carrier Management Information System

(MCMIS), and from the US Department of Transportation's (DOT) Financial and Operating Systems (F&OS),<sup>5</sup> along with the National Motor Carrier Directory, Rodriguez, Rocha, and Belzer found that small motor carriers (fewer than 100 power units) with low liquidity and a lower share of employee compensation per dollar of freight revenue, are at significantly greater risk of crash (Rodriguez, Rocha, and Belzer 2004).

Direct measures of firm profitability are difficult to obtain for those firms that do not submit financial and operating statistics to the federal government. However, one proxy measure of firm financial condition is the ratio of sales volume to power units or sales volume to number of employees, data which are readily available over a period of several years for firms filing federal financial and operating statistics as well as for firms of all sizes from Dun and Bradstreet's TRINC file.

#### *Specific Firm Safety Practices*

While safety best practices have never been established scientifically (weighting all possible factors across firms over time), certain specific firm safety practices likely have safety consequences. Oversight of the driver and oversight of equipment, for example, appears to predict safety performance (National Transportation Safety Board - U.S. Department of Transportation 1988). Moses and Savage identified as particularly significant several other safety practices: compliance with requirements to file accident reports; taking action against drivers involved in preventable crashes; and carrier ability to explain hours of service rules (Moses and Savage 1994).<sup>6</sup> However, such studies often produce counter-intuitive results. For instance, like Moses and Savage, Corsi and Fanara and Corsi, Fanara and Roberts also used safety audit data to study the influence of firm safety practices (Corsi and Fanara Jr. 1989; Corsi, Fanara Jr., and Roberts 1984). They found a significant and positive relationship between crash rates and carrier spending on maintenance. They attributed this to another known factor, age of fleet: the older the fleet, the higher the unavoidable repair expenses. Furthermore, in some of their models, the authors found that substantial hours of service compliance and demanding driver qualifications were associated with statistically significant and higher crash rates. The authors explained this result by arguing that the evolution of an unsatisfactory crash rate may lead to subsequent and costly improvements in safety management practices, but that cross-sectional data may not take into account a time lag in the eventual improvement of the crash rate. More recently, research by Rodriguez, Rocha and Belzer suggests that small firms with low liquidity and low driver compensation may have a significantly higher risk of crash (Rodriguez, Rocha, and Belzer 2004). On the other hand, these weak and sometimes contradictory results may indicate

<sup>5</sup> The F&OS is an invaluable resource for motor carrier analysis that the DOT terminated in 2004.

<sup>6</sup> Carrier-reported profitability again was not significant.

researchers are looking in the wrong place for safety effects; carrier profitability may not drive safety.

#### *Fleet Ownership*

One important data element for firm-level studies is the proportion of a firm's fleet which is represented by company-owned vehicles driven by company employees, leased vehicles driven by company employees, and vehicles operated by owner-operators.

For Class I and II firms, Corsi, Fanara and Roberts (Corsi, Fanara Jr., and Roberts 1984) and Corsi, Fanara and Jarrell presented findings that suggested that higher use of owner-operators was significantly related to higher crash levels (Corsi, Fanara Jr., and Jarrell 1988). Chow also concludes that higher proportion of owner-operators may negatively affect crash rates (Chow 1989). However, Bruning did not find a significant effect for the natural log of the number of rented power units with drivers as a ratio of total power units (Bruning 1989). With recent research showing that owner-drivers earn far less money than do employee-drivers (Belzer 2006), the problem may not lie with the use of owner-drivers themselves but rather with their low compensation and the effects low compensation has on drivers' pressure to take more work and work too fast and too long.

#### *Demographics of firm driver force*

Individual factors such as driver age, experience, and job tenure can contribute to both individual-level analysis as well as firm characteristics. Since length-of-service with the firm is a data element in the MCMIS crash file, a number of studies have sought to examine its impact. Although one study sought to portray this as an indicator of firm turnover rates, the raw measure used showed a significant and inverse relationship between length of firm tenure and crash rates, with over half of nearly 200,000 DOT crashes involving drivers with less than a year of tenure with the firm (Feeny 1995). Bruning also found that drivers with less than one year with a reporting carrier accounted for more than 50% of crashes in a similarly sized database (Bruning 1989). Such measures cannot be treated as proxies for firm turnover, even in the presence of controls for firm growth from year to year, nor may they be utilized as measures of the minimum experience requirements for firm hiring. Belzer et al. found that driver tenure is an important individual-level safety predictor and that driver tenure reduces crash probability, *ceteris paribus* (Belzer, Rodriguez, and Sedo 2002; Rodriguez et al. 2003; Rodriguez, Targa, and Belzer 2006).

#### *Firm age*

The ready availability of data on firm age suggests the value of the inclusion of the year the carrier was established (and a calculated variable for firm age) as a firm-level control variable in fire-level safety research. Such data

permit us to distinguish between a firms established before or after deregulation. Corsi and Fanara found that the year of firm establishment, post-deregulation, predicted crash rate in a multivariate model (Corsi and Fanara Jr. 1989). This would suggest that firm experience plays a role in safety as well, probably because it takes time to develop a safety culture and safety management practices.

#### *Firm size*

Corsi and Fanara's study of 2,000 safety audits found that, using multiple regression, firm size correlated negatively to crash rates, with larger firms having lower rates (Corsi and Fanara Jr. 1988). However, Even and Mcpherson noted that the relationship between firm size and employee turnover weakens when accounting for such factors as the nature of pension coverage (Even and Macpherson 1996a). This finding suggests that research must carefully assess the possibility of interactions between firm size and other firm characteristics such as industry segment, union presence, and others.

Mixon and Upadyyaya used agency theory and its moral hazard mechanism to suggest that managers of large firms with greater separation of ownership and control are more likely to pursue better labor relations and improved safety levels. However, the authors recognized that firm size is not always the best measure of remote ownership (Mixon and Upadhyaya 1995). An improved design might have compared publicly traded firms and firms owned by holding companies with privately-held firms. While firm size was a significant predictor of a proxy for safety (damage expenses), firm size may not have a linear effect, the authors found.

#### *Industry segment*

There has been considerable attention paid to the similarities and differences which can exist between different sectors of the trucking industry and to the need to better understand the nature of industry segmentation (Belzer 1994b, 1994a, 1995b, 1995a, 2000; Blevins and Chow 1988; Burks 1999). Yet despite the work of Moses and Savage, research still has not distinguished conclusively among differential rates and causes of crashes in different sectors of the trucking industry. The firm-level factors that can enable the stratification of findings or a focus on a particular segment include for-hire or private fleet; load mix (primary commodities hauled); trailer mix (primary and secondary trailer types); truckload, LTL, or both; and average length of haul. Such firm characteristics are readily available in industry directories as well as from other sources.

Research on the effects of competition, discussed above, actually may tell the story of industry segment differences. Horrace and Keane show that the most competitive trucking industry sectors – produce, intermodal, and refrigerated sectors – have the worst safety performance (Horrace and Keane

2004; Horrace, Keane, and Braaten 2002). This is consistent with Belzer's research, cited above related to the carhaul and intercity bus industries.

#### *Summary*

Moses and Savage note that "even among ostensibly similar firms there may be 'safe' firms and 'not-so-safe' firms" (Moses and Savage 1994). The design of the federal SAFESTAT system rested upon a similar assumption in order to develop a national "safety fitness" program for the nation's commercial trucking fleet. The Progressive Compliance Program, a component paired with SAFESTAT, was designed to identify "sick" (i.e. unsafe) carriers and provide different treatments based on that diagnosis to nurse these 'sick' carriers back to health" (John A. Volpe National Transportation Systems Center 1998). Despite the advances in research on firm characteristics outlined above, the definition of a "sick firm" remains unresolved. Furthermore, given the paucity of longitudinal firm-level research, the question remains: are firms with high levels of crashes at the present time unsafe or merely "unlucky?" Could a significant year-to-year random variation in firm crash levels explain purported trends? Finally, do some firm characteristics have a differential effect across several years, such as whether a firm purchases a new fleet all at once (and experiences the effects of fleet aging later) or replaces a portion of the fleet each year (thus masking the effect of vehicle age and safety features)?

Sound research requires a full examination of firm-level characteristics, along with the specific compensation level and method effects. We must combine examination of existing records with prospective research, beginning with some baseline year, to fully understand this problem.

#### ***Empirical Evidence for the Effect of Methods and Level of Compensation in the Trucking Industry: Driver-Level Research***

The unavailability of driver-level demographic data has contributed to limitations to the empirical research in this area. Researchers, as a result, have used either survey data gathered separately or have approached private firms in order to have access to their human resources data. The limitations of both approaches are readily apparent. Most survey data are not representative of the population. Truck stop surveys, for example, may cause oversampling of truckload for-hire carriers, over-the-road drivers, and drivers who use truck stops for some other reason. In carrier-level findings, the results exclusively apply to the population of drivers belonging to the firm and it becomes difficult to make inferences to the truck driver population. Finally, data limitations on the causes of the crashes observed rarely provide a data element that easily distinguishes truck-at-fault from truck-not-at-fault crashes.

Despite these limitations, some researchers have studied the effects of compensation on driver crashes and productivity. In one of the early and definitive studies, Krass (1993) studied the economic environment of trucking firms in order to explain truck-at-fault crashes in California from 1976-1987.

He used an ordinary least squares econometric model, relying on real wage rates as an indicator, and found that safety declined after deregulation, and that this decline was specifically attributable to the lower wage rates in the industry. The results were highly significant, with an  $R^2$  greater than 95% (Kraas 1993). Deregulation reduced safety outcomes because of structural changes in the trucking industry attributable to a market failure for trucking services; lower rates for trucking services did not incorporate higher costs of increased safety risk and roadside inspections became less effective. Lower rates earned by carriers probably led carriers to skimp on safety and drivers to violate hours-of-service regulations at more than double the previous rate.

The reduced effectiveness of roadside inspections is consistent with results found in subsequent research. This finding is especially consistent with and helps to explain recent findings by Belzer and by National Transportation Safety Board (NTSB) investigations that safety in the interstate and international motorcoach bus industry has become a critical problem for “curbside” and charter bus operators.<sup>7</sup> Part of this problem is due to the “needle in a haystack” or “whack-a-mole” problem faced by enforcement officers attempting to use roadside inspections and carrier compliance reviews in an industry characterized by very small firms with shifting ownership and management structures—carriers never granted interstate and international operating authority or “reincarnated” after having been placed out of service by FMCSA (Belzer 2009a).

Beilock, Capelle and Page studied the effect of various driver-reported firm characteristics on safety-related behavior of drivers and on firm crashes. The data set comes from a survey of 1,762 truck drivers in the Florida peninsula. They viewed speeding as providing an intrinsic pleasure-seeking ability for some drivers, as well as being a way of maximizing leisure time (given the predominant per-mile form of payment). The authors found that tight schedules, high company-demanded productivity, and the incentives of the per-mile pay method were associated with speeding. The authors also estimated a logit model with a binary dependent variable indicating if a crash had occurred in the past  $n$  years (hence drivers with less than “ $n$ ” years of experience were excluded from the sample). They hypothesized that crash likelihood would be a function of carrier characteristics, driver characteristics, and equipment features. They found that miles driven in the 12 months before a crash and method of compensation (hourly vs. per-mile) were insignificant (Beilock, Capelle Jr., and Page 1989). However, since firm characteristics were based on current employer, and crash experience was based on the drivers’ overall experience over the past year, high industry turnover could have prevented an accurate estimate of these effects.

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<sup>7</sup> See especially the NTSB investigation of the Victoria, Texas fatal bus crash. <http://dms.nts.gov/pubdms/search/projList.cfm?ntsbnm=HWY08mh011>. See also their investigations of the Sherman, Texas bus crash (fatal to seventeen people) and other crash investigations: [http://www.nts.gov/investigations/reports\\_highway.html](http://www.nts.gov/investigations/reports_highway.html)

Another study examined the effects of a multicomponent incentive system on the performance, safety, and satisfaction of 22 drivers working for a private carrier. This case study claimed to find that the introduction of performance-based pay incentives led to sustained productivity increases over a long period, without accompanying increases in crashes or turnover or decreases in workers' satisfaction (LaMere et al. 1996). However, given the random nature of truck crashes, the small sample may explain the lack of a statistically significant increase in crashes. Even though the multiple baseline design creates some econometric problems in attributing causality to the intervention, the results reported are strong enough to suggest that the incentive pay was an important factor in increased productivity. All drivers in the study were paid by the hour and the incentives included a distance-driven bonus. As a result, the carrier did not pass on earnings risk to drivers by implementing the incentive pay system. In addition, the study provided very limited information about driver characteristics (e.g., experience and tenure) and driver exposure. This information may help to further explain the changes (or lack thereof) in productivity and crashes.

In 1991, the US General Accounting Office (GAO) published the report "Freight Trucking: Promising Approach for Predicting Carriers' Safety Risks." The report documented the development of a model system of economic factors and safety. Even though the GAO models driver quality as a function of macroeconomic conditions of firms, driver compensation is the underlying mechanism that makes this hypothesis operative. As firms face economic hardship, they are unable to pay high compensation levels, and therefore the quality of their work force decreases (General Accounting Office - U.S. Congress 1991). Similarly, the GAO hypothesizes that in the presence of unfavorable firm financial conditions, drivers who are paid on a "rate basis ... can work at the same pace and face income erosion or they can drive harder ... to maintain their incomes" (General Accounting Office - U.S. Congress 1991). The GAO finds that as pay increases, the odds of engaging in a moving violation decreases. However, for owner operators the odds of conviction decrease as pay increases and then increase, forming a U-shaped curve (General Accounting Office - U.S. Congress 1991).

Elements of GAO's model were tested empirically using survey data from the Regular Common Carriers Conference (RCCC) survey. The authors found that compensation method was not a significant factor in determining the probability of crash involvement for truck drivers who had experienced a crash in the past 10 years (Beilock, Capelle Jr., and Page 1989). However, this study had a selection bias because only drivers who had crashes were included in the sample, making inferences about the driving population questionable. In a subsequent study, Beilock found that compensation method (by the load, per mile, per hour or fixed salary) was not significantly correlated with a driver's schedule tightness, but this study did not observe hours of service and speed, and other factors (Beilock 1995).



These studies had significant flaws, however. There was little variation in method of compensation in the sample (virtually all of the drivers were paid by the mile), so the lack of significant results would be spurious. Second, a reasonable assumption in the analysis is that no extended breaks were taken before the interview because of the location of where the interviews were taking place (Florida Peninsula, outbound). As a result, only cargo-loading (and not weather or traffic, or cargo unloading) could actually explain any variations in the schedules under different methods of pay. Furthermore, pay also can affect the intensity of driving (speed), an effect not accounted for in this study. Braver *et al.* did find that lower per-mile compensation levels were associated with higher propensity to violate hours of service regulations, but they made no explicit link to crashes (Braver *et al.* 1992). Hertz explicitly mentions compensation method as a probable cause for the hours of service violations found in her study. Per mile and per load compensation provide drivers “with direct economic incentives to drive longer hours” (Hertz 1991).

A comprehensive study in Australia concluded that overall earnings had significant negative influence on the number of driver convictions for moving violations. The same study found strong evidence suggesting that owner-operator compensation and company freight rates have a significant negative influence on the propensity to speed (Hensher *et al.* 1991). In another Australian study, using a set of structural equations, Golob and Hensher found that rates of compensation significantly influence the propensity to speed, take “stay-awake pills” (amphetamines), and to self-impose schedules; these endogenous variables all contribute to safety problems for truck drivers (Golob and Hensher 1994, 1995).

In addition to the violation of hours-of-service regulations, other factors such as sleepiness, fatigue and speeding play an important role in driver crashes. For example, a report on the causes and effects of sleepiness and fatigue for motor carrier drivers in New York State concluded that pay method was associated with driving more than 10 consecutive hours and taking fewer than 8 hours off-duty (McCartt, Ann T., Hammer, and Fuller 1997a).<sup>8</sup> Hensher found strong evidence suggesting that owner operator compensation and company freight rates have a significant influence on the propensity to speed. The authors contend that “the negative relationship is stronger for owner drivers as might be expected” (Hensher *et al.* 1991).

Besides being an important crash risk factor, speeding also correlates with crash severity (Wasielewski 1984). Beilock suggested truck drivers speed because of (a) pleasure or thrill, (b) they overestimate their abilities, and (c) because of economic pressures, though without empirical evidence the “pleasure” hypothesis remains conjectural. Assuming individuals are risk averse, or at least risk neutral, there should be some payoff from increasing the level of crash risk (Golob and Hensher 1995) associated with speeding (Beilock,

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<sup>8</sup> No multivariate analysis was included in the paper. It is unclear if the association found between pay method and violations would hold after controlling for other relevant factors.

Capelle Jr., and Page 1989). Finally, research shows that overall earnings also have a negative influence on average speeds (Hensher et al. 1991).

### ***Other Issues in the Relationship between Driver Compensation and Safety***

Piece-rate compensation is a common form of performance-based pay widely used in trucking. However, incentive mechanisms go well beyond piece rates. Many firms have readily identified this and now offer pay bonuses for maintaining a satisfactory safety record, having low fuel consumption, and other characteristics of interest. It therefore is important to stress that the incentive literature is replete with papers documenting varying degrees of effectiveness of safety pay bonuses.

Wilde, considered to be the author of the risk homeostasis theory (a fundamental concept in risk behavior analysis), has studied safety incentives for the trucking industry (Wilde 1995). He claims that safety incentives are “generally more effective than engineering improvement, personnel selection, and other types of intervention, including disciplinary action”. This theory would suggest that individual compensation tied to specific safety outcomes might be the key to reducing crashes. His study provides solid evidence of the success of safety incentives in other industries (mostly manufacturing), though many of the studies assessing the effectiveness of safety incentives tend to suffer from the econometric complications stemming from the longitudinal character of the data. The author explicitly states, however, that he knows of no controlled experiments addressing the safety and incentives issue (Wilde 1995).

Another study found a significant relation between the introduction of safety incentives (e.g., surcharge and rebate system due to crash frequency) and the reduction in the number of crashes (Kotz and Schaefer 1993). It is unclear, however, if these differences observed are due to changes in manager or worker behavior. Furthermore, there are other methodological questions of concern (e.g., omitted variables correlated with predictors and the panel nature of the data).

Besides the fundamental need to determine more precisely the association between driver pay and driver safety, we have identified three areas related to driver compensation and driver safety that warrant further detailed study: (a) the interaction between compensation method and level, (b) the role of pensions, and (c) the role of internal labor markets.

Regarding the interaction between compensation method and level, we presented research suggesting that piece rates shift earnings risks to drivers. Said differently, piece rates provide drivers with some degree of autonomy to determine effort and intensity levels. It is reasonable to expect, therefore, that the intensity and effort incentives afforded by piece rates vary according to the different piece rate levels. For example, a driver paid low piece rates may have a higher incentive to speed than a driver paid high piece rates. In order to reach

an earnings target, the driver on low piece rates might find it necessary to drive more miles overall. In fact, some researchers have recently argued that workers do exhibit a target level of earnings; as a result, workers earning below the earnings target gain more satisfaction from additional pay than do those earning above the target level (Drakopoulos and Theodossiou 1998). Incentives may have a similarly varying effect at different piece-rate levels.

In contrast, the effects of incentives afforded by time rates are harder to determine. On the one hand, a driver can speed in order to complete a task and have more leisure time (or work more and earn extra pay). On the other hand, a driver can drive or work slower than normal (i.e., shirk) and make extra hourly pay, even though his time-on-task is monitored frequently. We have found no other research about the potential interaction between compensation method and compensation level.

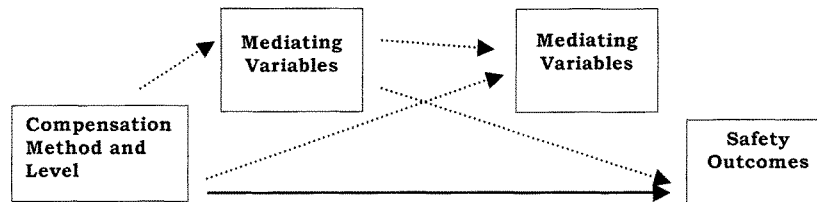
Only Southern et al., in their survey of personnel managers, included pensions as a compensation category. They find that vacation time and sick time, pension fund contributions, and safety bonuses were not ranked as high as pay as the most important factor in drivers' choice of motor carriers for employment (Southern, Rakowski, and Godwin 1989). A model that departs from using only the traditional piece or hourly rate and includes pensions and other bonuses may therefore be useful in painting a more accurate picture of overall truck driver compensation levels. We found no other study in the trucking industry that included the role of pensions on worker mobility and worker satisfaction.

Internal labor markets are difficult to proxy with these data except by looking at pay raises and retention as proxies for career ladders. Since drivers' occupations are on the surface (and at our level of data analysis) homogeneous, we are limited to this approach to internal labor markets.

#### ***Indirect Links between Driver Compensation and Driver Safety***

Does the literature look at potential indirect effects? An examination of available research shows sorting and effort-eliciting incentives for different levels and methods of compensation. For example, through sorting, higher compensation levels would attract a more qualified labor pool, which, in turn, will exhibit safe behavior. Figure 1 shows the paths of direct and indirect effects of compensation method and level on safety. This section evaluates mediating variables that have been associated with both compensation and safety for truck drivers, such as age, job satisfaction, turnover, and propensity to engage in risky behavior (e.g., drive long hours, use illegal substances, and speed), among others. These indirect links appear as dotted lines in Figure 1.

**Figure 1. Direct and Indirect Effects — Compensation Method and Level**



***Indirect Effects, Compensation Level and Method***

An important mediating variable is the link that exists between compensation level and both job satisfaction and organizational commitment. Previous research suggests that level of pay affects attitudes and perceptions that affect behavior, including the propensity to have crashes. Results of a controlled experiment suggest that neither the payment system nor the incentive level directly affect pay satisfaction beyond their impacts on absolute level of pay (Berger and Schwab 1980). As expected, other researchers have established a link between job satisfaction (i.e., satisfaction with the employer) and driver turnover (Richard, LeMay, and Taylor 1995).

Some researchers have found important differences in job satisfaction between and within the truckload and the less-than-truckload segments of the industry. Researchers divided TL drivers into short haul and long haul occupations, and the differences reported correspond to the different job characteristics. For example, long haul truckload drivers reported more negative attitudes concerning issues such as benefits, income, and advancement opportunities than did short haul drivers (McElroy et al. 1993). Such results support other research showing substantial pay differentials between regional and long-haul drivers; long-haul TL drivers are among the lowest-paid U.S. workers (Belzer 2000). This might also be further evidence of the importance of career ladders in some segments of the trucking industry, as discussed previously.

Employee turnover becomes an issue because of low job satisfaction, but it also is instrumental in determining the sorting effects caused by variations in compensation levels. In fact, the sorting effect of efficiency wages or wage tilting may be an indirect path that could result in increased safety. Some researchers have found evidence that firms' wage levels are associated positively with the previous experience of new hires, the tenure of employees with the firm, managers' perceptions of employee productivity, and managers' perceptions of the ease of hiring qualified workers. Wage levels were negatively associated with job vacancy rates and training time (Holzer 1990).

In a meta-analytic study, Cotton and Tuttle found that higher pay and some socio-demographic variables were associated with lower turnover likelihood. Demographic variables include age, tenure and number of dependents (Cotton and Tuttle 1986). This finding is important because a firm's compensation policies might attract certain types of individuals who might be more or less prone to quitting the job early. Cotton and Tuttle's review notes that 4 out of 5 papers assessing the link between individual performance and turnover found that the relationship was negative and significant. LeMay *et al.* found similar results in a truck driver study (LeMay, Taylor, and Turner 1993). In another trucking study, the driver's sense of trust in the company predicted actual turnover best. In the same study, trust, optimism and job satisfaction had weak relationships with employee attitudes (Kalnbach and Lantz 1997). Studies in other industries have shown that those who perceive their jobs as stressful and those who have limited family responsibilities for children tend to be prime candidates for turnover (Keller 1984).

Similar analyses have shown similar results for compensation method. For example, one study used an experimental design to measure the differences in employee satisfaction with pay for workers under time rates compared with those under incentive payment systems. Results indicated that neither the payment system nor incentive levels directly affect pay satisfaction beyond their impacts on absolute level of pay (Berger and Schwab 1980).

The likelihood of using illegal drugs on the job also is an indirect effect of compensation level. In the single study of this type for truck drivers, Hensher *et al.* found that the pay level for owner operators is negatively associated with the propensity to use illegal drugs. The higher the pay the less likely the owner operator will use performance-enhancing drugs, particularly amphetamines (Hensher *et al.* 1991; Hensher, Daniels, and Battellino 1992).

### ***Indirect Effects, Driver Safety***

If driver compensation influences the age distribution of the driver pool, and the age of drivers correlates strongly with safe or unsafe behavior, then one could argue that driver compensation and safety are linked via an age-mediating variable. We describe in this section the "intermediate factors," such as age and tenure, and their association with driver safety.

#### *Age*

Considerable literature exists that links driver age with crash rates. For example, younger and less experienced drivers have higher crash involvement. The fatal crash involvement rates for drivers of large trucks decrease with increasing driver age (National Highway Traffic Safety Administration - U.S. Department of Transportation 1982). Younger drivers have six times the frequency of crash involvement in comparison to the overall driver involvement rate (Campbell 1991). In addition, research has shown that young truck drivers, compared with older drivers, have significantly more traffic violations,

with a higher proportion of unsafe speed, reckless or careless driving, and failure-to-yield violations (Blower 1996). In addition, Braver *et al.* found that being a violator of hours-of-service regulations was significantly associated with being a young driver, having a tendency to speed or drive longer when given unrealistic schedules, and not knowing the hours-of-service rules (Braver et al. 1992).

#### *Work experience*

Research attempting to distinguish between age and experience has not been very convincing. With respect to employee safety, worker experience shows the same effect as the driver age variable, probably due to the high collinearity between the two (Bloom and Milkovich 1995). Ayres attempts to distinguish between the two concepts econometrically, and concludes that experience and age make separate significant contributions to injury risk with age as the most important predictor and experience the second most important out of ten factors identified. Surprisingly, when both factors are in the same equation the presence of each factor enhances the predictive power, but age takes on a negative sign. Ayres explains this by claiming that this picks up a tendency for more experienced drivers to acquire an “optimism bias” that, since it is unwarranted, makes the driver feel overconfident and increases risk (Ayres 1996). While this may be true, econometric problems suggest this hypothesis requires considerable more validation. Clearly, age and experience alone have a positive affect on safety and incorrect statistical specification may have introduced this paradoxical outcome. However, Lin, Jovanis and Yang studied the experience of one large interstate carrier and found that while driving time on the trip prior to a crash was the strongest predictor of a crash, drivers with more than 10 years of experience had the lowest crash risk, although the relationship was not linear between one and ten years of experience (Lin, Jovanis, and Ynag 1993).

#### *Fatigue*

Despite its intuitive appeal, literature has shown no conclusive empirical evidence linking driver compensation method and the onset of fatigue. Clearly, more research is necessary in this area. An NTSB study of the factors that affect fatigue in heavy truck crashes did observe pay structure (but not pay level) as a variable affecting the onset of fatigue (National Transportation Safety Board - U.S. Department of Transportation 1995). However, the aim of the study was to examine the factors that affect driver fatigue, and not the statistical incidence of it. This study introduced definite statistical biases because it observed single-vehicle heavy truck crashes in which the driver survived, and thus overestimated the incidence of fatigue substantially. Nevertheless, it is safe to say that the report “raises questions about the influence of pay policies on truck driver fatigue ... and raises questions about a link between method of compensation and fatigue-related accidents” (National Transportation Safety Board - U.S. Department of Transportation 1995).

Hensher's study in Australia tested the hypothesis linking driver fatigue to the underlying economic conditions in the long distance trucking industry. However, the experimental design did not allow the observation of fatigue *per se*. Rather, Hensher assumed fatigue could not be observable directly. Instead, Hensher used proxies for fatigue, such as the number of moving violation convictions and number of crashes (Hensher et al. 1991), and questions remain whether such proxies embody the phenomenon of interest. Even within the industry, differences remain between drivers' and companies' perceptions regarding the causes of fatigue, and strategies that should be used to manage it (Arnold, Pauline K. and Hartley 1997; Arnold, Pauline K. et al. 1997).

The link between fatigue and driver safety, however, seems to be more robust (Saccomanno, Frank F, Yu, and Shortreed 1995; Arnold, Pauline K. and Hartley 1997; Chatterjee et al. 1994; Feyer et al. 1993; Golob and Hensher 1995; Wylie et al. 1996). Studies have shown increases in driving errors and decreases in driver alertness due to fatigue (National Highway Traffic Safety Administration 1982). A preliminary statistical link is established between truck driver fatigue and crash rates, as a contributing factor (Saccomanno, Frank F, Yu, and Shortreed 1995). Despite experimental design limitations, an NTSB study found that fatigue and fatigue-drug interactions were involved in more fatalities than alcohol and drug abuse alone (National Transportation Safety Board - U.S. Department of Transportation 1990).

#### *Turnover*

High labor turnover rates have been linked to crash rates. For example, the Bureau of Labor Statistics found that workers were approximately three times more likely to be injured during the first month of employment than during their ninth month of employment. In addition, it found that workers under 25 years of age were 10 to 20 times more likely to sustain work injury than older workers (Bureau of Labor Statistics - U.S. Department of Labor 1982). Several studies in the trucking industry have found a consistent positive correlation between turnover and crash rates (Corsi and Fanara Jr. 1988; LeMay, Taylor, and Turner 1993; Taylor and J & H Marsh & McLennan 1997). The implications of these studies for future research on driver compensation are important. Again, a correlation between driver turnover and accident rates (at the firm level) is established, though the causal mechanisms remain unclear. This correlation may be spurious, due to driver age, for example. Younger drivers change jobs more frequently and have higher accident rates, therefore accounting for the correlation.

In other firm-level studies, high turnover rates have been positively correlated with injury rates and injury costs (Rinefort Jr. and Van Fleet 1998). Again, in most instances these associations tell little about causation, though plausible mechanisms outlining causality between turnover and crashes can be devised easily.

### *Safety Climate*

The safety culture of an organization is considered a subset of organizational climate such as work practices, work style, training and industrial hygiene. A poor safety climate is considered an antecedent of safety outcomes such as crashes and unsafe behaviors. In a recent study of the relationship between culture, turnover and driver safety, Taylor and McLennan find a statistically significant correlation between intent-to-quit and the safety culture of the organization (Taylor and J & H Marsh & McLennan 1997).<sup>9</sup> Another study found a high correlation between traditional safety indices, such as lost time and crash rates, and safety climate (Coyle, Sleeman, and Adams 1995).

At the individual level, driver stress affects performance significantly (Matthews 1996), as does work pressure (Belzer 2009b). As with fatigue, however, there appears to be no conclusive evidence linking compensation with either safety culture or stress. It is intuitive to think that the performance pressures induced by piece-rate systems, for example, have an effect on the individual's perception of stress and an organization's safety climate. It may be likely that a sorting mechanism underlies these phenomena. It may be simply that data are lacking to test one way or the other. Individuals more able to handle the stress of piece rate compensation schemes may opt for them while others would find jobs that have different compensation systems (Rubin and Perloff 1993), but the fact that the pay system for virtually every over-the-road trucking job is piece-rate (either by the mile or a percentage of revenue) means that few alternatives exist for those with the truck-driver skill set, and testing for significant differences in the real world is almost impossible. Research does link work stress with turnover (Keller 1984) and it is not difficult to imagine that wage systems in trucking (including piece-work rates such as mileage pay or percentage pay, or no explicit pay at all for non-driving time) would be associated with work stress.

### ***Driver Safety and Driver Crashes***

Asalor et al. identify five primary root causes of crashes at the level of an individual (Asalor, Onibere, and Ovuworie 1994):

1. environmental (e.g., the road and its surroundings);
2. vehicle (e.g., equipment failure);
3. driver;
4. pedestrian and other non-motorized users; and
5. "pure circumstance."

Pure circumstance consists of being on the road at the wrong time and, say, being struck by a passing vehicle. This is different from pure randomness,

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<sup>9</sup> See also TRB safety synthesis on the role of safety culture (Short et al. 2007).



however. If crash involvement for any given driver is purely random or circumstantial, however, then crash involvement should not be an issue when studying driver compensation policies. In fact, observing crash data that contains a strong “pure circumstance” component to it introduces a standard error bias.

Pure circumstance is a subset of pure randomness. Someone can get into a crash for a number of reasons, such as environmental, vehicle and driver factors. There is randomness in all of these. The fact that a driver’s tire blew out because of a nail or the fact that he or she encountered black ice in his or her lane has some randomness to it. Included in that randomness is “pure circumstance” – the fact that the driver was at the wrong place at the wrong time. A specific instance of pure circumstance comes from the fact that other vehicles can hit you. Speaking personally, even though I did not encounter black ice in my lane but my neighbor did, this occurrence resulted in a crash between both of us. If pure circumstance is an important factor in crashes, then observing multi-vehicle crashes may not be as efficient as observing single-vehicle crashes for detecting the causes of the crash. This is because in multi-vehicle crashes, some of the crashes are due to the pure circumstance of being next to a vehicle that crashed into you. Instead, single vehicle crashes will exhibit less (but still some) pure circumstance crashes than multi-vehicle crashes, and as such there is less noise impeding the extracting of the causal factors in single vehicle crashes. However, an individual driver’s ability to avoid “pure circumstances” in which crashes occur – his ability to avoid risky situations in which his vehicle is more likely to be struck by another vehicle or an incautious driver – probably is a measure of his ability to drive more safely in the same traffic pattern as others who have higher crash probabilities.

Pure circumstance must not exist in single vehicle crashes, except insofar as an object falls from the sky and strikes the vehicle. A vehicle in a multi-vehicle crash, however, may be there due to pure circumstance or due to any of the first four categories listed. If pure circumstance were a factor, then single vehicle crashes would be significantly different from multi-vehicle crashes. The implication for future research is that additional information about the crash (i.e., number of vehicles involved) might be desirable in order to improve the explanatory and predictive power of the models.

Arguably some degree of human capital or incentive difference explains these drivers’ safety records. Indeed, the studies by Belzer et al. all show that individual characteristics of drivers associated with their compensation rates predict greater propensity to avoid risk and thus greater safety on the job (Belzer, Rodriguez, and Sedo 2002; Rodriguez et al. 2003; Rodriguez, Targa, and Belzer 2006).

In addition to the use of subsets of crashes at the individual level, researchers have used moving violation convictions as proxies for driver safety behavior. The stochastic nature of crashes highlights the difficulty in predicting them. As a result, researchers have consistently used driving convictions as

variables that are less vulnerable to randomness (Beilock, Capelle Jr., and Page 1989; Peck, McBirde, and Coppin 1971). Most researchers have found that they generally can use moving violations to predict future crashes. These results lead to the conclusion that drivers exhibit bad behavior, as measured by moving violations, consistently over time (Ferreira 1972; Mitter and Vilardo 1984). This conclusion does not support the common belief that we can model poor driver behavior as random walk (Poisson distribution or Poisson-related model). The relevant variables probably have some of the same behavioral elements involved in moving violations and are more stable and sensitive measures of individual differences of driver behavior. Miller and Schuster, however, found a positive relationship between previous violations and future (or current) moving violation convictions but not with crashes (Miller and Schuster 1983). Arguably “there is sufficient initial evidence to examine the issue further, together with the relationship between employee status and crashes” (Pearson and Ogden 1991).

#### *Market Factors*

In his extensive report on truck crash causation, Quinlan concludes that Australia’s truck safety problems stem from competitive industry forces, and particularly on pressures created by shippers who demand rapid and timely service for a low price. This has created a “sweatshop” sort of environment in Australia that is responsible for an alarming truck safety problem, including long hours, high levels of chronic fatigue, and amphetamine abuse. Regulations aimed at individual drivers are relatively ineffective because they do not address underlying economic performance pressures on the industry. Self-regulation in the absence of a market model, while laudable, also does not work because it does not address the problems created by competitive market forces. His inquiry recommends the establishment of an industry-wide “Code of Practice” which would include coordination among regulatory agencies, compulsory licensing of all participants in the logistics industry, the replacement of logbooks with “Safe Driving Plans” signed and filed by motor carriers and drivers, and minimum pay and conditions standards for all drivers - a “safety rate” applicable to both employee and owner-operator drivers and carriers (Quinlan 2001). Quinlan’s concept of a safety rate also has become accepted as a matter of national policy in Australia (Quinlan, Wright, and National Transport Commission 2008; Skulley 2009), although implementation remains unclear and bogged down in process.

In his elaborate Trucking Industry Benchmarking Program, Belzer uses cost-effective on-line data collection methods in an effort to collect data on both direct and indirect operational factors, with which he hopes to predict motor carrier safety. Based on the premise that cutthroat carriers cut corners to attract business by having low operating costs, and assuming that this corner cutting behavior includes practices that likely put the carrier at risk, Belzer proposes to determine the extent to which marginal pricing in trucking, in the absence of effective financial responsibility laws, might cause large and safe

carriers to subsidize unsafe carriers against their will, thereby creating a market externality imposed on those carriers and the motoring public. Economic theory suggests that carriers with few assets may be “damage proof” because they can insure the value of their investment at a rate far lower than that which the market would charge if insurance companies were allowed to charge market rates for motor carrier insurance, representing their estimate of carriers’ true risk. If the cost of one fatal crash averages approximately US\$3.5 million and federal regulations only require that carriers maintain \$750,000 in per-crash liability insurance—state laws allow carriers to insure themselves at a prescribed minimum liability of \$1 million or less—then it is quite possible that this subsidy helps to drive down shipping rates as well as motor carrier profits and driver pay rates. Belzer argues that self-regulation is possible only if public policy forbids these subsidies and if motor carriers benchmark their operational characteristics and practices (including compensation factors) against each other (see <http://www.ilir.umich.edu/TIBP/>) as well as Transportation Research Board presentations at <http://www.ndsu.edu/ndsu/trb/>).

Research recently published demonstrates clearly the relationship between market forces and motor carrier safety. Analyzing data collected from J.B. Hunt, a large truckload carrier that elected to solve its driver supply problem by raising wages substantially all at once, Belzer, Rodriguez, and Sedo show that this carrier cut its turnover rate as well as its overall crash rate in half in less than one year by paying an efficiency wage (Belzer, Rodriguez, and Sedo 2002; Rodriguez et al. 2003; Rodriguez, Targa, and Belzer 2006). Indeed, the firm reduced its monthly rate of major crashes four-fold, for unscheduled over-the-road freight drivers. A duration model, predicting the probability that each individual driver will have a crash in each succeeding month<sup>10</sup> showed that at the mean, for each ten percent in base mileage wage, the carrier reduced the probability of crash for the average driver by 34 percent. In addition, since some drivers received wage increases during this strategic change in compensation policy, a ten percent increase in drivers’ base wages produced a six percent lower probability of crash. Clearly the policy had the desired effect.

#### **IV. Conclusions**

Economics – the competitive forces resulting from markets – strongly influence the structure of industry as well as the structure of the labor markets on which industries rely. This is a fundamental driving force in market economies, where private companies compete for business and by selling goods and services to customers subject to their preferences. Transportation is a

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<sup>10</sup> Duration models are a method of conducting survival analysis, appropriate to the particular variables incorporated within a model. See methods section below for detail and explanations.

commodity within these markets because one unit of transportation is the same as the next, subject to quality constraints with imperfect information.

Transportation service failures take the form of delays due to many factors, including weather and equipment breakdown. Catastrophic failures, in the form of vehicular crashes, are low probability high impact events the predictability of which continues to stump analysts who know how to predict crashes based on mechanical failures or precautionary failures, including human error. The probabilistic prediction of commercial transportation failures, however, has eluded analysts who continue to restrict their focus to the equipment or human factors without looking systematically at the economic environment in which the commercial activity – and the failure – occurs.

Most critically, analysts fail to take into consideration that unlike personal travel, commercial vehicle transportation – whether by marine, air, rail, or highway – constitutes a derived demand industry that responds to the laws of economics as surely as it responds to law and regulation. In other words, while truck drivers respond to laws and regulations governing their operations, such laws vary by time and place, while economic laws do not vary. Truckers and trucking companies respond to the market demands of their customers, and compete based on satisfying those customers' demands for both price and service. Governments regulate truckers' equipment, practices and behaviors to create boundaries around that competition, but they can do so imperfectly. Since markets are systems of reciprocal demands set in a social context, the context itself requires systematic regulation that acknowledges the markets that frame the system. In other words, we must embed systematic truck safety regulation in the context of market systems.

Trucking is a labor-intensive industry, so we cannot effectively regulate trucking industry safety without addressing the fact that truck driver compensation is a major factor underlying the price of service that underlies this market. If freight transportation is a derived demand industry and if price and service are the dominant factors motivating competitive carriers, then we must deal with compensation factors if we are going to have any effect on motor carrier safety.

These studies show that higher driver pay is associated with safer operations. Clearly the more drivers are paid, and the more they are paid for their non-driving time, the less likely they are to have crashes. Part of this effect is due to labor market sorting: carriers that pay more money can afford to be more choosy, which allows them to select drivers with superior unobserved (to us) human capital characteristics. Part of this effect also is due to incentives: drivers who earn more money are motivated to protect their records and, if they have them, their retirement plans. Carriers that pay drivers more money do so because the value of their service is higher to the customer, and the generally higher value is associated with greater service demands and necessarily higher value of the freight.

These studies also show that market competition, an extremely powerful force in a world of unregulated economic competition, has put supply chain power in the hands of the shippers and consignees who determine rates and conditions under which freight services are allocated. The development of the supply chain approach to freight transport has placed the consumer in the most powerful position, as the consumer drives transactions in a world governed by welfare economics. The shippers and consignees are the consumers within the supply chain and represent end consumers.

The question is whether all the costs of transport are incorporated within the supply chain. Does the market governing supply chain externalize costs to society, creating inefficient market signals within supply chain transactions? Evidence presented here suggests that not only does the market incentive inefficient use of freight transport resources, creating sprawl and environmental consequences, but it incentives safety and health consequences the cost of which are borne by commercial motor vehicle drivers as well as the motoring public. These consequences represent a market failure that calls for regulatory solutions designed to incorporate all costs and benefits into an efficient market. An efficient market can therefore not only increase macroeconomic efficiency but spin off the equity that is the promise of the utilitarian ideal.

## **V. Policy Implications**

### ***Engage the U.S. Department of Labor as well as FMCSA***

- Get government regulators out of their silos. FMCSA and the Department of Labor should cooperate to regulate the economic conditions that lead to safety problems. The DOL has the authority to regulate compensation and should do so.

The FMCSA should not have sole responsibility for CMV safety. While safety regulation is an important DOT function, safety is everybody's business. Once we recognize that safety problems have economic origins, and that these economic origins stem substantially from the effects of competition on the labor market, it becomes apparent that the Department of Labor needs to share responsibility. The silos of the Federal Government do not help to solve problems when they create artificial barriers for public policy.

FMCSA believes it does not have the authority to regulate compensation, even though it has commissioned research showing that competitive forces, including compensation and industry segment (a proxy for the price carriers charge to cargo owners, which eventually leads to driver compensation levels), play a major role in safety performance. The Department of Labor likewise believes it must take a hands-off attitude toward trucking, which originally was regulated by a Congressional agency – the Interstate Commerce Commission –

that has not existed for more than fifteen years. This analysis shows that we will not make lasting progress in safety without reconciling this turf question.

Regulations enforcing the FLSA should require explicit pay for implicit as well as explicit work. While it's fine to say that drivers must at least earn the minimum wage, many earn less than the minimum wage for all time employed, and most earn nothing explicitly for the hours they spend doing non-driving labor. Research cited here suggests that the average intercity driver probably works about 25% more hours than he logs, because he simply does not log unpaid non-driving labor time, and surveys show that on average 25% of drivers' work time involves non-driving labor. If carriers and cargo owners had to pay drivers for all of their time, the amount of time spent in doing non-driving labor would decline accordingly; cargo owners would no longer benefit from the moral hazard of playing with somebody else's time – or money. This moral hazard causes economic deadweight loss for society, as cargo owners and their agents demand more freight services – including service that they value at a very low rate – than the market would bear absent this moral hazard.

Carriers must charge, and cargo owners must pay, for all services they receive. It should be illegal to decline to collect such fees, or to refuse to pay documented charges. These fees include various “ancillary” charges such as waiting time (waiting to get loaded or unloaded), inside delivery, stacking and restacking freight inside food warehouses, and “demurrage” (excessive delay time). Shippers can order a truck early because they have the leverage to require it and receivers can refuse to unload a truck when it arrives because they aren't ready for the freight (or because the driver missed the time window). This causes drivers to engage in risky behavior to make appointments and they will not log unpaid time, extending their workday and workweek by working “off the clock”, again demonstrating the interaction between competitive forces and safety and health risk.

In sum, while “safety culture” of the firm is something that FMCSA can address, and it can issue regulations on equipment and driver training, behavior, and qualifications, if economic forces require that safety culture be superimposed on a no-holds-barred competitive environment, the regulator will be fighting a continuous rear-guard battle against the iron law of competition. If the fundamental exigencies of markets work at all, then cargo owners' need for lowest price will lead to a race to the bottom and safety will suffer. Because economic forces are involved, economic solutions must be considered.

#### **Implement chain of responsibility regulations**

- Implement Chain of Responsibility regulations like those enacted by the Australian Parliament to create a level playing field in a deregulated environment.

Mitigation of the negative effects of competition requires that everyone in the supply chain – everyone in the chain of custody – take joint responsibility for safety outcomes. If cargo owners share the responsibility for the safe transportation of goods and people, they will have an incentive to work together with brokers and transportation providers to insist on socially responsible contracting practices, including a willingness to pay reasonable rates for the service. Following an inquiry on truck safety that determined that economic forces underlie commercial motor vehicle safety (Quinlan 2001), Australia implemented a “chain of responsibility” policy, in cooperation with the trucking industry and all levels of government (2004)<sup>11</sup>. On the principle that all participants in the chain of custody need to participate in developing and implementing a safety culture, government safety officials have cooperated with the industry to develop a safety accreditation scheme designed to engage the industry in continuous improvement with respect to safety (Baas and Taramoeroa 2008).

In Australia the government has gone so far as to announce a “safe rates” policy setting a minimum compensation package for truckers (Quinlan, Wright, and National Transport Commission 2008), which was passed the House on March 12, 2012 and the Senate on March 20, 2012.<sup>12</sup> Fair Work Australia has set up an industrial tribunal that begins work July 1 to establish a minimum national compensation scale for all truckers. It has widespread political as well as scientific support.

Carriers, drivers, third-party logistics providers, brokers, and cargo owners must be responsible for the supply chain in its entirety. The fragmentation of economic and legal responsibility for freight transport imposes hidden costs on the transportation system by imposing hidden costs on society. These costs appear in the form of safety and health burdens absorbed disproportionately by CMV drivers for whom the excessive work hours and safety and health burdens impose risks, and for motorists and others on the public roadway as well as health burdens suffered by the public generally by excessive low-cost trucking. It leads to widespread subcontracting as well, which shifts risk burdens to those least able to support them, shifting risk from the service providers to society, with attendant efficiency losses.

Currently the largest carriers, with the greatest visibility and assets to protect, tend to be the deep pockets that attract lawsuits. Our legal standards, which tends to hold parties responsible for damages according to the depth of their pockets, creates some inefficient incentives. The FMCSA only requires that carriers carry insurance for up to \$750,000 per incident, even though single incidents can cost millions of dollars, and this unrealistically low level subsidizes unsafe carriers that can charge rates reflective of their inadequate

<sup>11</sup> <http://www.ntc.gov.au/newsdetail.aspx?newsid=149>;

<http://www.ntc.gov.au/viewpage.aspx?documentid=01419> (accessed on July 9, 2012).

<sup>12</sup> <http://www.ministers.deewr.gov.au/shorten/safer-roads-all-australians> (accessed on July 9, 2012). To locate the full Hansard, search <http://www.aph.gov.au/hansard>.

coverage while society bears the cost of this risk. In addition, motor carrier risk is hard to assess, and though the chance of a major loss is small, the cost could be great. Because low probability, high impact events are so hard to rate they can be hard to insure, and these carriers may be able to obtain insurance from assigned risk pools that, at least in some states, may charge below-market rates. Large motor carriers, on the other hand, which are substantially self-insured, pay the full cost of insuring against losses and may pay a premium over less safe carriers.

Australian policy makers have found that although “chain of responsibility” is hard to define and implement, it has been an effective way to get everyone’s attention. In some cases where a willful pattern of violations has been identified, such as a case in New South Wales involving systematic overloading of trucks by grain shippers, criminal charges have been made, and industry-wide compliance occurred quickly.<sup>13</sup>

### **Subcontracting**

- Tighten regulations on subcontracting that balances the power between contractors and trucking companies, as Australians have done. Court rulings 40 years ago usurped legislative authority, disallowing traditional cooperation among owner-drivers to negotiate with carriers. This would give owner-drivers a fair shake.

Widespread subcontracting, and arguably misclassification of workers as contractors in an attempt to evade employment and labor law as well as escape other burdens of having employees, has undermined public policy relative to employment and undermined true small business truckers as well. Independent businesses owners do not have to pay themselves a minimum wage, much less a living wage, removing the floor from the labor market entirely. When employees with no bargaining power are classified as business owners, they make a mockery of small business. As discussed in Belzer and Swan (2011), an intensive study of owner-drivers showed that the average owner-driver of one truck in interstate commerce, which he drives himself, earns only \$21,267 in wages and profits combined. Since we know from other surveys that these drivers work at least 3,000 hours per year, their average earnings are slightly greater than \$7 per hour. Since the median is almost identical to the mean, half earn less than that. Again, with pay a strong predictor of safety, economic pressures may account for most of their safety risk, and their risk as well as the risk to other highway users is substantial.

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<sup>13</sup> Philip Halton, Assistant Director, National Transport Policy, Licensing, Registration & Freight. Roads and Traffic Authority of New South Wales. Personal communication and talk at the University of Michigan Transportation Research Institute conference in June 2009. Halton presentation on “Compliance Issues (P10-1187)” also given at Transportation Research Board Annual Meeting on Sunday, January 10, 2010, in the session: “OECD-JTRC International Study on Truck Transport Safety, Productivity, and Sustainability: Final Results”.



Subcontracting (or worker misclassification) has increased in recent years, with thousands of workers essentially buying their jobs. They own the equipment and the risk but motor carriers, under whose authority they operate, control them just like employees, with many working under conditions that resemble debt peonage. Many of these subcontract to other drivers who, though they do not own the equipment they drive, also become subcontractors. This individualization of work, now also widespread in the construction industry (especially residential), completely changes the employment dynamic, making labor and employment law enforcement, including regulations protecting worker safety and health as well as tax collection, virtually unenforceable. This creates a dangerous climate for safety and puts both the drivers and the public at great risk.

While these are just three recommendations that arise from this research stream, these three changes would have a profound impact on the economics of safety and health in the U.S. commercial carrier industry. Implications for trucking are obvious, but the same kinds of reform would result in safer airlines and commercial motor coach bus industries as well.

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Anthony P. Gallo, CFA  
Wells Fargo Securities, LLC  
Oral Statement Wednesday July 11, 2012  
The committee on Small Business  
*"Is FMCSA's CSA Program Driving Small Business Off the Road?"*

Good afternoon. My name is Anthony Gallo. I am honored to be here today. I am a Managing Director and the senior equity research analyst covering freight transportation at Wells Fargo Securities. I have been covering the transportation sector since the early 1990's. I have held several other roles at Wells Fargo and its predecessors, including Co-Head of equity research.

I am not an expert on truck safety, small business or statistics, although as an equity analyst covering the highly fragmented trucking industry I am expected to have a certain proficiency and understanding in these areas.

My research is largely conducted in the context of providing investment ideas and strategies to institutional investors. I publish fundamental market research on the trucking, railroad and parcel segments within the broader freight transportation industry. My written testimony includes a list of the companies within my current coverage universe as well as important disclosures and an attestation that my research reflects my personal views about the subjects and securities or issuers discussed. The views I express today are my own and not the views of Wells Fargo.

In the normal course of our research, we examine regulatory issues that pertain to and influence our covered companies and the industry. In most instances, we are largely trying to determine how a specific regulation will disturb the economics of the participants in the industry and how it may shape or alter competitive dynamics.

Our interest in CSA was originally focused on two main dynamics. First, as CSA scores became public, we would have non-financial metrics of carrier performance. Secondly, a few industry consultants began to promulgate the idea that the CSA program would force a large number of unsafe drivers and unsafe carriers to exit the industry,

thereby creating a capacity shortfall. This, in turn, was expected to transfer pricing power back to the trucking companies versus shippers. The notion that new CSA regulations would create a shortfall in trucking capacity was even discussed on earnings conference calls of railroad companies, who were keenly aware of the implications and interested in capturing market share.

Since the release of CSA BASIC scores, we have published three research reports on the program and the prescribed rating methodology. Our first was on March 28, 2011; published shortly after the CSA BASIC scores were initially made public.

On November 4, 2011, we published our second research report titled “CSA: Good Intentions, Unclear Outcomes”. Our intent with this report was to examine CSA after it had been implemented and utilized for roughly a year. We expanded the dataset from the March report of roughly two dozen public carriers to 200 of the largest motor carriers. Using regression analysis on the data, we were unable to find any meaningful statistical relationship between a carrier’s assigned BASIC score and actual accident occurrence.

When we first regressed and analyzed the data and the results showed no meaningful relationship, we were a bit perplexed. After all, it is certainly intuitive to expect a higher accident occurrence, or crash rate, for a motor carrier that scored poorly on either the Unsafe Driving or Fatigued Driving BASIC. But that is not what we found. Rather, we found a wide variety of crash rates by carriers that did not coincide with their associated BASIC scores.

In our role as research analysts, we seek to understand what is behind the numbers. That is what we did for our “Good Intentions, Unclear Outcomes” report. In summary, we highlighted several aspects of the CSA program that we found to be problematic. We stated that we did not believe stakeholders should rely exclusively on BASIC scores in assessing carrier risk. We received a fairly robust response from industry stakeholders including; trucking company customers, legal professionals, freight brokers, etc., who heard about our report and we subsequently received numerous requests for copies.



On March 16, 2012, the FMCSA published a formal response to our November research report. In short, they disagreed with our findings. We looked deeply into the FMCSA responses, sought advice and perspective from industry experts and subsequently expanded our dataset to 4,600 motor carriers. We published our findings on July 2, 2012 in a report titled “CSA: Another Look With Similar Conclusions”.

Our 22 page report has been submitted as our written testimony. I offer the following summary conclusions from that report;

- First, we did not find a meaningful statistical relationship between the assigned BASIC scores for Unsafe Driving, Fatigued Driving, Driver Fitness or Vehicle Maintenance when compared to actual accident rates measured against either the number of power units or number of miles driven. Again, the dataset included 4,600 motor carriers.
- Second, we found unexplainable variances in enforcement by States. For example, in our dataset Indiana represented over 35% of all BASIC violations for exceeding the speed limit by 1-5 miles per hour. In another example, Arizona accounted for 24% of all the assigned BASIC notations for False Logbook violations.
- Third, we found a wide variety of inspection rates by carrier. The one pattern that we did observe was that small carriers, between 25-49 trucks, were inspected at greater than twice the frequency of the largest carriers when normalized for mileage driven or on a per power unit basis.
- Lastly, in the FMCSA’s response to our research report they refer to a University of Michigan Transportation Research Institute study that, in contrast to our work, did find high statistical correlations. We examined the UMTRI report, as well as examinations of the UMTRI report by others. One examination in particular, conducted by Dr. Inam Iyooob from Transplace.com caught our attention. Dr. Iyooob found that the correlations cited in the FMCSA response to our work did not hold when the 43,000 carriers in the study were ungrouped from the percentile ranking that UMTRI had done prior to the regression.

In concluding my comments I would like to offer some observations that we came across in our work that you may find helpful in your determination of CSA's impact on small truckers.

CSA is a federal program that is enforced at the State level but State inspection and enforcement protocols vary in unexplainable ways. Moreover, States reporting of inspections and crashes varies sufficiently enough that FMCSA actually has a rating system in place to grade States as "Good, Fair or Poor" in their reporting. Small carriers are likely to frequent a fewer number of States than larger carriers, thereby increasing their exposure to the vagaries of any one State. Secondly, according to the FMCSA, only 1/3<sup>rd</sup> of all inspections result in no violation being assigned. Small carriers appear to be inspected at greater than twice the frequency of large carriers. This has implications for productivity loss. Further, because two out of every three inspections typically result in a violation, the process can create a vicious cycle for the carrier. A threshold breach prompts more inspections, and two out of three inspections find violations, and so forth. Lastly, the customer base of the trucking industry appears to be struggling with the ambiguity inherent in the CSA BASIC percentile methodologies. Large carriers are using their favorable CSA scores in soliciting business and pointing out deficiencies at other carriers. It is not clear at this point the degree to which this will impact the small carrier community. However, it seems plausible to us that a logistics manager's self interest would prompt him to select a large carrier that is within each BASIC threshold, as opposed to the risk of choosing a smaller carrier that may be outside of any one BASIC threshold at a particular point in time. This could cause lost business at smaller carriers in spite of perhaps no increased risk of accident occurrence.

Thank you for your time and attention. I would be happy to answer any questions you may have.

**Statement for the Record**  
**by the**  
**Alliance for Safe, Efficient and Competitive Truck Transportation**  
**to the House Small Business Committee**  
**Hearing on the CSA Program**  
**July 11, 2012**

Mr. Chairman and members of the Committee:

ASECTT (the Alliance for Safe, Efficient and Competitive Truck Transportation) is a Section 501(c)(4) association comprised of over 600 carriers, brokers and shippers directly affected by SMS methodology. Three of ASECTT's members (NASTC, AEMCA and TEANA) are truck associations that, in turn, represent over 3,000 small for-hire motor carriers. ASECTT submits:

(1) The Federal Motor Carrier Safety Administration is solely responsible for certifying interstate carriers as fit to operate on the nation's roadways (49 U.S.C. 31144). The Agency affirmed this duty in the settlement of *National Association of Small Trucking Companies et al. v. Federal Motor Carrier Safety Administration*, in the United States Court of Appeals for the District of Columbia Circuit, Case No. 10-1402.

(2) The shipping public (including brokers and 3PLs) is entitled to rely upon the agency's ultimate safety fitness determination and publication thereof in credentialing carriers for use free from vicarious liability and negligent selection suits under state law.

(3) In promulgating any new safety fitness standard, the FMCSA is required to comply with federal statutes and regulations, including but not limited to the Administrative Procedures Act and the Regulatory Flexibility Act.

(4) In published guidance titled "CSA Update: New Resources Available for Shippers, Brokers, and Insurers," the agency has effectively branded over 50,000 carriers as unfit for use without due process or APA compliance by repudiating the reliability of its own safety fitness determinations required by statute.

ASECTT supports the concept behind the Compliance, Safety, Accountability program of progressive monitoring of carriers in order to enable the agency to do a better job of getting unsafe carriers off the road. But the coalition does not support use of percentile rankings, which CSA uses, that are based upon unproven compliance data to make safety fitness determinations, either by the agency or by a deputize shipping public through the publication of CSA rankings. See (<https://csa.fmcsa.dot.gov/resources.aspx?locationid=115>).

### **Legislative History**

In 2003, the DOT's Inspector General issued a report critical of SafeStat, which included a finding that publication of its percentile ranking of carriers failed to meet a high enough standard to ensure fairness and competitiveness. The IG concluded:

“Because carrier safety data and the model's ranking are publicly disclosed, a higher standard of quality must be met to ensure fairness to motor carriers who may lose business or be placed at competitive disadvantage by inaccurate SafeStat results. FMCSA will need to demonstrate timely improvements if it is to continue to publicly disclose carrier results across all SafeStat categories.”

This report was a factor in Congress's requirement in Safetea-Lu that the agency develop a new safety fitness methodology that would allow the agency to make comprehensive safety fitness determinations of all regulated carriers.

Eight years in development, the agency has — without vetting in accordance with the Administrative Procedure Act — delivered a new methodology that is not comprehensive (it rates only 12% of the carriers the agency regulates). Importantly, without heeding the warning of the IG, the agency has published unvetted data that are arguably less reliable than the SafeStat system it replaced. On May 16, 2012, the agency formally advised the shipping community that Safety Management System, or SMS, data was fit and proper for use in making carrier selection determinations without first considering the effect of the resulting branding on efficiency and competition, or the potential for “loss of business” or “competitive disadvantage” to small businesses in particular that follows.

### **Publication of SMS Percentile Ranking Threatens Competition, Efficiency and Small Businesses in Particular**

Over 95% of the carriers regulated by the FMCSA are small businesses operating less than 20 trucks. Intended as a “Comprehensive Safety Analysis,” SMS methodology actually ranks only 12% of the motor carriers the agency regulates, in peer groups with percentile rankings. Of the approximately 97,000 carriers measured in any reported BASIC category under CSA, SMS methodology brands 53,000 carriers (or 57% of the carriers it can measure) as in some sense a higher safety risk.

Independent studies suggest that between 55% and 71% of the shippers and brokers have been frightened by publication of SMS methodology into barring carriers that exceed arbitrarily imposed “enforcement thresholds.” Shippers and brokers withhold business from carriers with a CSA BASIC above the arbitrary level out of fear of state law “negligent entrustment” lawsuits. The FMCSA has pandered to this fear by advising the shipping public that its own safety fitness determination cannot be trusted and that SMS methodology, among other unspecified factors, must be used in making business decisions.

SMS methodology is systemically flawed and cannot pass APA's scrutiny for the following reasons, among others:

(1) Its percentile ranking of carriers amounts to “grading on the curve” and is not predicated on objective criteria. Over 50% of all carriers ranked in one or more BASICs are over an arbitrary enforcement threshold regardless of how well they or their peer groups actually perform.

(2) SMS methodology follows the format of SafeStat that was criticized in an IG report, which found that publication of such data required a high degree of accuracy not obtained by SMS methodology because:

(a) the agency has expanded its algorithms to include numerous non-out-of-service violations with no proven relationship to safety;

(b) the agency has failed to address the following:

- (i) Enforcement anomalies (5 states write 46% of the violations in “Unsafe Driving”);
- (ii) The predominance of paperwork violations with no correlation to safety (over half the violations in “Fatigued Driving” are non-hours-of-service violations);
- (iii) Insufficient data – three of the current reported BASICs measure less than 5% of the carriers: Driver Qualification (3.5%); Substance Abuse (.57%); and Securement (4%).

#### **Statistical Errors**

Three recent studies (Wells Fargo, “CSA: Another Look With Similar Conclusions” (July 2012); Inam Iyob, “BASIC Scores are Not Valid Predictors of Crash Frequency”; and James Gimpel, “Statistical Issues in the Safety Measurement and Inspection of Motor Carriers”) poignantly demonstrate that no proven correlation exists between SMS percentile measurement and crash predictability.

(1) The previous studies that the agency has relied upon are based on average trend lines which are refuted when actual carrier performance is considered (Iyob).

(2) SMS lacks sufficient data points to obtain statistically valid samples for small carriers (Gimpel).

(3) Profiling, enforcement anomalies, peer group creep and other variables distort any data accuracy or accident preventability analysis.

#### **Effect on Small Carriers**

Small motor carriers are unfairly targeted under SMS methodology for the following reasons:

- (1) ASECTT estimates that over 90% of the carriers identified under SMS methodology are small over-the-road for-hire motor carriers, under SBA guidelines.
- (2) Regardless of how well these small carriers operate, 50% under the current methodology will be identified as high safety risks. The effect of branding is particularly prejudicial to small carriers because the fear of a “poor man’s indemnity” will drive shippers and brokers to larger carriers. (This dynamic results in a competitive advantage for larger carriers, contrary to the intention of the uniform financial responsibility requirements of the statute.)
- (3) Wildly fluctuating scores. Because of the law of large numbers, small carriers’ percentile rankings fluctuate wildly based upon single aberrant infractions with misleading consequences when published by the agency for public use.
- (4) Profiling and peer group creep. SMS methodology targets small carriers for increasing inspection, resulting in extraordinary delays at the scale house; peer group creep, affording competitive advantage to fleet operators with newer trucks, speed limiters, and EOBRs.

Particularly prejudiced are owner/operators who utilize older equipment. For points and authorities and the 3 statistical reports mentioned above, please see (<https://docs.google.com/open?id=0B6aiirmQGAQSdTB4blVjWng4VEE>).

#### **Effect on the National Transportation Policy**

The FMCSA is required to consider efficiency, competition, and the effect of its regulations on small business enterprises pursuant to the National Transportation Policy, 49 U.S.C. 13101. The agency has renounced any obligation to consider the anticompetitive effects from publication of SMS data or the loss of business which results to small carriers. The agency and only the agency is required to make a uniform safety fitness determination upon which the shipping as well as the traveling public can rely. In an effort to “raise the safety bar,” the agency has abdicated its job to enforce uniform safety criteria in credentialing carriers, attempting to deputize a frightened shipping public to enforce vigilante justice on any small carrier identified as failing to meet an arbitrary safety limbo bar on a monthly basis. ASECTT submits that this amounts to reregulation of the trucking industry at the expense of efficiency and competition. It is without statutory warrant and should be subject to congressional oversight and accountability.



**SUMMARY AND ANALYSIS OF FMCSA'S  
EVALUATION OF THE CSA OPERATIONAL MODEL TEST**  
*March 2012*



## Introduction

In August 2011, the Federal Motor Carrier Safety Administration (FMCSA) published an evaluation of its Compliance, Safety, Accountability (CSA) Operational Model Test (Op Model Test). The Op Model Test employed the CSA system to measure and monitor carrier safety performance in nine test states<sup>1</sup> before the system was launched nationwide in December 2010. The evaluation was conducted for FMCSA by the University of Michigan's Transportation Research Institute (UMTRI). Consistent with UMTRI's reputation and tradition, the evaluation is comprehensive, well-written and informative.

The following is a discussion of the evaluation's findings with respect to CSA's effectiveness and observations on the limitations of the program. Also, we will discuss how FMCSA may have understated these limitations. Generally, UMTRI found that the system is efficient in that it allows FMCSA to use its limited resources to contact more carriers, and effective in that carrier performance tends to improve as a result. However, the evaluation also revealed that scores in certain measurement categories bear a limited (if any) relationship to crash risk.

## Overall the CSA Op Model Test Was Successful

### CSA is Generally More Efficient and Effective

UMTRI's evaluation of the Op Model Test confirmed many of CSA's benefits. Through CSA's tiered carrier intervention process, FMCSA was able to interact with 9.9 percent of the active carrier population. In contrast, under the previous enforcement model, FMCSA performed compliance reviews on only 3.2 percent of active carriers.<sup>2</sup> In other words, CSA allowed FMCSA to "touch" three times as many carriers.

UMTRI also found that CSA is a more cost effective means of impacting carrier behavior. This is largely due to the fact that the cost to issue warning letters is nominal and that focused interventions are less time and labor intensive than comprehensive compliance reviews. Under the CSA Op Model Test, the average cost per carrier intervention was \$754. This is roughly half of the cost of performing a compliance review under the previous model, which was \$1438 per carrier.<sup>3</sup>

In addition to being less costly, UMTRI found that the system is often effective at getting carriers to improve their performance. Here's an example: Under the CSA system, carriers exceeding certain poor performance thresholds are issued warning letters. These letters alert carriers to the areas of concern and encourage them to take swift, corrective action. The UMTRI evaluation showed that only 17% of carriers who received warning letters still had poor performance scores a year later. Conversely, 45% of carriers in a control group (who did not receive warning letters) continued to have performance scores that crossed the acceptable threshold.<sup>4</sup> In other words, in the vast majority of cases a letter alone – alerting the carrier to poor performance – was adequate to get the carrier to improve its performance.

<sup>1</sup> The test originally included four states between February 2008 and June 2010; five more states were added later.

<sup>2</sup> Evaluation of the CSA 2010 Operational Model Test, Federal Motor Carrier safety Administration, August, 2011. Pg. 102.

<sup>3</sup> Ibid. pg. xxi.

<sup>4</sup> Ibid. pg. xix

#### CSA Identifies Unsafe Carriers

The evaluation also showed that the CSA methodology can identify carriers who are more crash prone. Specifically, in 5 of the 7 measurement categories (BASICS) UMTRI found that carriers' scores have a positive statistical association with crash risk. In a few of the categories, the *Unsafe Driving* BASIC, the *Crash Indicator* and the *Fatigued Driving /Hours of Service* BASIC, the relationship was very strong. In fact, the crash rate for carriers above the intervention threshold in the *Unsafe Driver* BASIC were found to be three and a half times higher than the rates of carriers with no scores above any thresholds.<sup>5</sup> Scores in the *Vehicle Maintenance* and the *Controlled Substances/Alcohol* BASIC had a somewhat weaker (though still positive) statistical association with crash risk.

#### **CSA Has Significant Limitations**

##### Carriers' Scores Are Not Always a Reliable Measure of Crash Risk

Although the evaluation found a strong statistical correlation between scores in the *Unsafe Driving* BASIC, the *Fatigued Driving/Hours of Service* BASIC and the *Crash Indicator*, the correlation between scores and crash rates in other categories was weak or, in some cases, non-existent. For example, the evaluation describes the relationship between scores in the *Controlled Substances/Alcohol* BASIC as "somewhat weaker" than the others. Further, scores in the *Driver Fitness* and *Cargo-Related* BASIC appear to have no relationship to crash risk. In fact, the evaluation states that the *Driver Fitness* BASIC "...shows a negative correlation with crash rates,"<sup>6</sup> meaning that as scores in that BASIC increase there is actually a statistical possibility that a carrier's crash risk will fall.

##### CSA Lacks Sufficient Data on 89% of Carriers to Measure Their Performance

UMTRI's evaluation confirmed some previously known limitations of the reliability of carriers' CSA scores. The most significant limitation is the absence of data on which to measure carrier performance. Specifically, only 11% of active carriers in the Op Model Test States had sufficient data to generate a score in any one of the seven measurement categories. In order to generate a BASIC score, carriers must meet data sufficiency tests including a minimum number of inspections and violations. The vast majority of carriers did not meet these tests. For example, 70 percent of carriers' in the test states did not have a single roadside inspection record in the system and 89% lacked a sufficient number of inspections/violations to generate a single BASIC score.<sup>8</sup>

##### Underreporting of Crashes is a Serious Problem

Another fundamental problem with the system is the underreporting of crashes by states. Since 2003, UMTRI researchers have been studying the percentage of crashes reported by the States to understand and document the extent of this problem. Although rates vary from State to State, the researchers have found consistent trends in underreporting. For example, UMTRI found that several states report fewer than 50% of commercial motor vehicle crashes to the Federal database. Accordingly, the CSA evaluation acknowledges that this problem "...may result in unsafe carriers going undetected by the *Crash Indicator* BASIC."<sup>9</sup> Also, the authors point out that underreporting by some states tends to "penalize carriers in States that do a good job of reporting."<sup>10</sup>

<sup>5</sup> Ibid. pg. 30

<sup>6</sup> Ibid. pg. 42

<sup>7</sup> It is important to point out that the evaluation was likely referring to the number of *registered* motor carriers, not *active* carriers. FMCSA contends that up to 30% of registered carriers are not active.

<sup>8</sup> Ibid pg. 26

<sup>9</sup> Ibid. pg. 18

<sup>10</sup> Ibid. pg. 39



Violation Severity Weights May Be Inappropriate

The evaluation also calls into question the validity of FMCSA's methodology for assigning violation severity weights. UMTRI notes that, "*Whether the weights used in the calculation of the BASICs scores are appropriate is not known... In the document describing the SMS, no rationale or justification for the weights are given.*"<sup>11</sup> The authors go on to describe some of the severity weights as "arbitrary" and offer a solution/improvement saying: "*One source for the weights could be to use crash costs associated with different crash severities. ... These would provide a substitute based on analysis for the arbitrary weights currently used.*"<sup>12</sup> The assignment of weights, along with other data and methodology problems, are likely responsible for the fact that BASIC scores are not always a reliable measure of crash risk, as discussed above.

**FMCSA Appears to Be Downplaying CSA's Limitations**

A review of the Op Model Test Evaluation reveals that FMCSA may be understating the limitations of CSA, perhaps in an attempt to further justify use of the system. Many statements made by the agency, especially in the Executive Summary, are potentially misleading and appear to contradict statements made later in the document. As a result, readers may be left with erroneous conclusions about the system's usefulness and reliability.

Significance of BASIC Scores

The most glaring example of this practice is how FMCSA characterizes the significance of carriers' BASIC scores. Even though scores in two categories have no relationship to crash risk, the agency says: "*For all BASICs, crash rates were higher for carriers exceeding SMS thresholds than for carriers not exceeding (any) thresholds*"<sup>13</sup> Put another way, carriers above a threshold in any BASIC have higher crash rates than carriers that are below the thresholds in all BASICs. However, it does *not* mean that in each BASIC those carriers with scores above the threshold have higher crash rates than those below the threshold.

To provide the most meaningful information, UMTRI's regression model<sup>14</sup> should have compared carriers with scores above thresholds against each of the other two carrier subgroups:

- 1) Carriers that have scores but which are below the thresholds; and
- 2) Carriers with insufficient data to even generate a score.

However, according to an American Transportation Research Institute (ATRI) analysis, the UMTRI researchers only provided interpretations of the model in terms of how carriers with scores (both above and below thresholds) compare to carriers with insufficient data to generate a score. They did not, however, explicitly compare carriers with scores above the thresholds against those with scores below the thresholds in each BASIC. According to ATRI's review of the regression model, it appears that carriers above FMCSA's threshold may only be significantly less safe than those below the threshold in the *Unsafe Driving* (and possibly the *Vehicle Maintenance*) BASIC.

<sup>11</sup> Ibid. pg. 23-24

<sup>12</sup> Ibid. pg. 23

<sup>13</sup> Ibid pg. xv. The word "(any)" was added for clarity, as was the underlining of the word "all" for emphasis.

<sup>14</sup> Ibid pg. 47

A proper comparison between the safety performance of carriers above thresholds to those below them, in each BASIC, is important for understanding the significance of carriers' CSA scores. However, the researchers chose not to focus on this analysis in the published evaluation. They did perform a less robust comparison earlier in the report, but since it did not control for other variables, it is far less meaningful than the regression model. As the researchers point out, the regression model provided "the best estimate of the association of each BASIC with the fundamental metric of safety, which is the crash rate."<sup>15</sup> Why researchers did not perform the regression analysis this way (or did not publish it) is puzzling. Of course, this is a significant point given that shippers, insurers, brokers, and others may show preference to carriers with scores below the thresholds since they are perceived to be safer.

Another example of downplaying the system's limitations is how FMCSA characterizes the fact that scores in two BASICs bear no relationship to crash risk. Intuitively, this is extremely significant. Two of seven BASICs represent 29% of the system. However, rather than highlighting that high scores in these categories erroneously paint carriers as being unsafe, the agency says: "*All of the BASIC measures have positive associations with crash rates, except for two.*"<sup>16</sup> This sentence appears to have been constructed to draw attention away from significant limitations of the system.

#### Underreporting of Crashes

The agency also appears to understate the significance of the problem with underreporting of crashes by states. For example, the Executive Summary says that "*...underreporting is an issue in some States, but comparison with estimates from NHTSA's General Estimates System (GES) shows that the total number of crashes reported to the MCMIS system approximates the number estimated from GES.*"<sup>17</sup> However, later in the document the researchers acknowledge that GES "*...is a weak test of reporting completeness...and does not address any bias that may accrue due to underreporting from a particular State.*"<sup>18</sup> As mentioned earlier in this document, UMTRI researchers have been conducting studies of state crash reporting practices since 2003. Though there has been a trend towards improvement, researchers said "*The reports have consistently shown significant underreporting of crash involvements to the MCMIS file.*"<sup>19</sup>

#### Selective Evaluation Methods

Finally, FMCSA did not use the same method for measuring or expressing the relationship between scores in each BASIC and their respective crash risks. Instead, the agency chose varying methods and, for each measurement category, used the one that reflected the strongest statistical association with crashes. In other words, FMCSA evaluated categories differently, using whatever method would make the results look most favorable.

### **Conclusions**

Based on the findings of the Op Model Test Evaluation, CSA represents an improvement over its predecessor system. CSA allows FMCSA to "touch" more carriers in a cost-effective fashion. Also, the program appears to be an effective means for getting some carriers to improve their safety performance. Finally, scores in some measurement categories provide a reliable measure of future crash risk.

However, the system continues to have some substantial limitations. Foremost, the system lacks data on the vast majority of motor carriers. As a result, carriers with scores above thresholds are perceived to be "unsafe," though their scores don't represent a comparison

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<sup>15</sup> Ibid pg. 43

<sup>16</sup> Ibid. pg. 40

<sup>17</sup> Ibid. Executive summary page xv

<sup>18</sup> Ibid. pg. 21

<sup>19</sup> Ibid. pg. 18

against the safety performance of all other carriers, but rather the 11% of carriers that have enough data in the system to be measured. Also, scores in two measurement categories have a weaker relationship to crash risk than the more robust categories, and scores in two others have no positive statistical relationship to crash risk at all. Finally, underreporting of crashes by some states is significant. As a result, unsafe carriers operating in these states may go undetected and escape necessary attention. Conversely, relatively safer carriers in other states may endure greater scrutiny.

It is also important to point out that the evaluation represents an assessment of the CSA program prior to August 2010 when FMCSA made some significant changes to the program's methodology. Accordingly, the evaluation may not provide an accurate characterization of the program that is currently in use. FMCSA should conduct an evaluation of the effectiveness of the program based on the current methodology and subsequently after future methodology changes. Only by doing so will the agency be able to determine if the system accurately identifies unsafe carriers.

The results of the evaluation suggest that continued development of CSA is important. The program holds great promise for identifying carriers that pose an elevated crash risk and impacting their behavior in an efficient and cost effective manner. However, data and methodology problems need to be corrected to better prioritize the least safe carriers for intervention. Also, these improvements are necessary before carriers' BASIC scores can be accepted as reliable, sound measures of safety performance.

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**Statement for the Record**  
**American Trucking Associations**  
**Before the**  
  
**COMMITTEE ON SMALL BUSINESS**  
**U.S. HOUSE OF REPRESENTATIVES**

*Is FMCSA's CSA Program Driving  
Small Businesses Off the Road?*

**JULY 19, 2012**



***Driving Trucking's Success***

**American Trucking Associations**  
**950 N. Glebe Road, Suite 210**  
**Arlington, VA 22203-4181**

### **Introduction**

ATA offers this written statement on the Small Business Committee's hearing entitled: *Is FMCSA's CSA Program Driving Small Businesses Off the Road?* ATA is the national trade association for the trucking industry and is a federation of affiliated State trucking associations, conferences, and organizations that together are comprised of more than 37,000 motor carrier members representing every type and class of motor carrier in the country. The majority of ATA's members are small businesses.

It is important to point out that ATA has been supportive of the objectives of CSA since the program's inception. By design, CSA leverages performance-based data to provide real-time measures of safety performance. In doing so, CSA is intended to focus FMCSA's limited enforcement resources on the least safe carriers. Through its streamlined intervention process, CSA helps FMCSA "touch" more carriers annually. Finally, it has the potential to provide meaningful information to third parties (e.g. shippers and insurers) in their efforts to make safety-based business decisions. ATA members are committed to safety and believe CSA has the potential to allow them to distinguish themselves from other carriers on the basis of superior safety performance.

CSA also addresses shortcomings of the current safety rating process which focuses on verification of compliance with recordkeeping requirements and provides an assessment that can become quickly obsolete (since it is not regularly updated).<sup>1</sup> Though CSA is currently used only to prioritize carriers for intervention actions (e.g., warning letters and audits) it is eventually intended to be used as a tool to provide real-time, updated measurements of carrier safety fitness (e.g., safety ratings).

Though supportive of the objectives of CSA, ATA has some significant concerns with the program, its limitations, and FMCSA's unwillingness to acknowledge and address these problems. Specifically, ATA is troubled by the low reliability, accuracy and significance of CSA scores – especially the lack of a relationship between carriers' scores and their future crash risk. For example, an evaluation of the *CSA Operational Model Test* published for FMCSA by the University of Michigan Transportation Institute (UMTRI) found that scores in some measurement categories did not have a strong relationship to future crash risk, if any.

For instance, UMTRI found that scores in the Hours of Service and Unsafe Driving BASIC had a strong relationship to crash risk. However, in the Driver Fitness category, UMTRI concluded that there appeared to be no difference in crash rates for carriers with scores exceeding the FMCSA intervention threshold to carriers whose scores did not.<sup>2</sup> Other data presented to the House Small Business Committee in the context of this hearing also cast substantial doubt on the relationship between carriers' scores and crash risk.

These findings lead us to draw two important conclusions. First, the system creates flawed measurements of carriers' relative safety performance. These measurements undermine the efficient use of Federal resources to identify and impact unsafe carriers, as well as drive third parties to make improper business decisions. Second, this lack of a statistical relationship between compliance measures and safety performance confirms that motor carriers bear an unnecessary regulatory burden. In short, CSA measures regulatory compliance but also shows

<sup>1</sup> A motor carrier's safety rating reflects its status at the time it was last audited by FMCSA, which could have been as much as a decade ago, if not longer.

<sup>2</sup> *Evaluation of the CSA 2010 Operational Model Test*, Federal Motor Carrier Safety Administration, August, 2011, pg 33.

that non-compliance with certain regulations doesn't correspond to crash risk. One is left to ask: *why must carriers bear the burden of complying with regulations that don't correspond to safety? And why should government continue emphasize enforcement of safety rules that do not have a relationship to better safety outcomes?*

The limitations that impact CSA fall into two distinct categories: 1) problems with the underlying data that feed the system; and 2) problems with the methodology used to assign motor carrier's safety performance scores. A discussion of these problems follows.

### **Data Problems**

CSA is plagued by a variety of data problems. The principal data weakness is the fundamental lack of information upon which to measure carrier safety performance. FMCSA acknowledges that it only has adequate data to score 40% of active motor carriers in at least *one* of the measurement categories and does not even report how few carriers are scored in *all* categories.<sup>3</sup> In short, critical safety data for the vast majority of motor carriers often isn't captured or doesn't get reported to FMCSA. Because the foundation of CSA is measurement of carrier performance relative to others, this lack of data represents a substantial weakness. Carriers with "poor" scores are measured relative to only those carriers for whom FMCSA has adequate data from which to draw a comparison – not the entire industry.

The shortage of data has a particularly profound effect on small trucking companies. Due to a lack of exposure (e.g., few roadside inspections), many small companies don't generate adequate data to produce CSA scores. Those that do are then compared against these unscored carriers and perceived to be less safe. This is not necessarily the case; often the safety performance of the other fleets simply hasn't been validated. Also, given the small amount of data on which small carriers performance may be measured, just a few events (e.g., violations/crashes) can cause a small carrier's scores to change dramatically.

Other data problems hamper CSA as well. For instance, some states engage in vastly disproportionate enforcement of certain regulations. As a result, carriers in these states are far more likely to be cited for these infractions. These fleets appear to be less safe when compared to carriers operating in other states - not because they are less safe, but because they travel in states with more robust enforcement programs. This problem more profoundly impacts small carriers operating in these states.<sup>4</sup>

Also, some states fail to report many of the commercial motor vehicle crashes occurring on their roadways to FMCSA's database. In fact, according to UMTRI<sup>5</sup> and FMCSA<sup>6</sup> analyses, several states report less than 50% of their crashes to the database. Interestingly, FMCSA attempts to minimize its lack of CSA violation data by pointing out that it has adequate information to score the carriers involved in 92% of crashes reported to the agency. Yet, this argument is circular since many crashes don't get reported to FMCSA.

<sup>3</sup> FMCSA has adequate data to score roughly 200,000 of the estimated 500,000 estimated active carriers in at least one measurement category.

<sup>4</sup> The impact to large carriers is mitigated because data from a single state only represents a small portion of their total data (since they often operate in many states). Conversely, a small carrier may operate in only a few states.

<sup>5</sup> Blower, D., Matteson, A. 2010. *Evaluation of 2008 Mississippi Crash Data Reported to the MCMIS Crash File at* [http://www.umtri.umich.edu/content/Mississippi2008\\_final.pdf](http://www.umtri.umich.edu/content/Mississippi2008_final.pdf)

<sup>6</sup> See results for Nevada, New Mexico, Mississippi and Florida at <http://a.fmcsa.dot.gov/DataQuality/improve/fcc.aspx?i=6&ns=N>  
Note: a rating of "poor" means that less than 50% of non-fatal crashes were reported.

### **Methodology Problems**

The accuracy and significance of CSA scores are also impacted by a number of methodology problems. A comprehensive list of ATA's methodology concerns is attached. Likely the most significant of these problems is the assignment of "points" or severity weights to various violations in the system. By design, each violation is to be assigned a weight on a scale of 1- 10 based on its relative severity (relationship to crash risk). However, many of the weights appear to be illogical or, as UMTRI called them in its evaluation of the program, "*arbitrary*." Other methodology issues impact scores as well. For instance, warnings issued for moving violations bear the same weight as citations and, in many cases, citations dismissed in court bear the same weight as convictions.

Perhaps the single biggest problem with the CSA methodology is that it measures motor carriers on all crashes they are involved in, regardless of fault. Intuitively, at-fault crashes are the best measures of safety performance. However, FMCSA measures carriers based on these crashes and those they did not cause nor could have prevented. In other words, a carrier that is rear-ended while stopped at a red light is perceived as being just as safe/unsafe as one that rear ends another motorist or crosses a median and strikes another vehicle head-on.

For more than three years, ATA has been calling on FMCSA to establish a process to evaluate crash accountability and modify the CSA methodology accordingly. In mid-2010, the agency conducted a study of the reliability of police accident reports (PARs) in making crash accountability determinations and characterized the results as "promising." FMCSA sources indicated to ATA that, according to the study, analysts were able to make accurate crash accountability determinations from the PARs in 93% of the instances tested. Subsequently, FMCSA developed such a process and was prepared to implement it, but in March 2012 reversed course saying the issue needed further study.

Now, in the context of this hearing, FMCSA indicates that it intends to spend another year studying the issue before developing a corresponding solution. Also, the agency has ignored repeated calls to make public the aforementioned study of police accident reports. These steps lead us to wonder how difficult it should be to determine that a motor carrier rear-ended while stopped at a red light should not be labeled as unsafe and subsequently prioritized for enforcement.

FMCSA contends that it is appropriate to score carriers based on all crashes (not just preventable ones), because their analysis reflects that past crash involvement, regardless of fault, is a strong predictor of future crash involvement. But without question, the most efficient – and fair – use of the system would be to identify and prioritize those fleets and drivers that are causing crashes, not those that endure greater exposure due to their operating environment.<sup>7</sup>

### **Acknowledgement of the Program's Limitations**

Though an early advocate of the CSA program, ATA has become increasingly frustrated with issues like these. Moreover, ATA is troubled by FMCSA's unwillingness to frankly acknowledge CSA's limitations and fix them. Instead, the agency seeks to find the benefits of the current methodology, even though they are lesser benefits, and tout them.

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<sup>7</sup> Crash frequency is typically a function of operating environment (e.g., rural vs. urban) but does not necessarily reflect overall safety posture (e.g., crash fault).

A good example is FMCSA's rhetoric with respect to the *Driver Fitness* measurement category. The UMTRI evaluation found that there appeared to be no difference in crash rates for carriers with scores exceeding the FMCSA intervention threshold to carriers whose scores do not.<sup>8</sup> In other words, the *Driver Fitness* category measures a fleet's compliance with regulations, but not its propensity to actually be involved in a crash. Rather than admitting this problem and working to correct it, the agency points to the importance of highlighting compliance with the regulations, even those that don't have a statistical relationship to safety.

This lack of forthrightness is especially troubling. There is no doubt that FMCSA's intent in designing the CSA system was to identify carriers that are less safe; in other words, those more likely to have crashes. For instance, the CSA methodology says the goal of CSA is *to reduce commercial motor vehicle (CMV) crashes, fatalities, and injuries*. Consistent with this goal, FMCSA's intent (according to its document outlining the process for assigning violation severity) was to assign weights to violations based on their statistical correlation to crash incidence and crash severity.<sup>9</sup> Even FMCSA's Administrator has acknowledged that the objective of the program is to yield "the greatest safety benefits" (emphasis added).

However, rather than admitting that the outcome missed the mark, FMCSA points to the only benefit of the *Driver Fitness* category. That is, it identifies carriers who have amassed more points for violations than other carriers – even though the system lacks adequate data on the majority of the industry to draw a meaningful comparison. These violations, while not excusable, are also not those that you would typically associate with the riskiest behavior. For instance, the most common violations in this category are assigned to drivers who fail to keep their medical examiners' certificates in their possession while driving. Again, though these violations are not condonable, they don't appear to actually elevate crash risk according to FMCSA's own analyses.

FMCSA now appears to be perpetuating this flaw through development of future iterations of the program. Specifically, the agency has developed a new measurement category to rank carriers who haul hazardous materials. The agency candidly acknowledges that "*The goal of the HM BASIC is not to predict future crash risk.*"<sup>10</sup> Instead, FMCSA says the BASIC better identifies carriers that are more likely to commit future hazardous materials violations. The agency points to the importance of identifying such carriers since HM can increase the consequences of a crash, but presents no data to show that HM carriers have crashes with worse outcomes as a result of HM violations. It is doubtful that the most common HM violations (e.g., damaged or deteriorated placards), lead to more severe crash outcomes.

While compliance with regulations is important, ATA questions the merits of assigning a higher priority to focusing on these carriers rather than those that are actually less safe. If, as FMCSA contends, the intent of the system is to *prioritize* carriers, then less safe carriers should be assigned higher scores than those that have patterns of violations that are not safety-related. Intuitively, this would be the most efficient and effective use of Federal resources.

The inability of the system to identify the least safe carriers impacts more than FMCSA's enforcement prioritization program. CSA scores are used by third parties to make business

<sup>8</sup> *Evaluation of the CSA 2010 Operational Model Test*, Federal Motor Carrier Safety Administration, August, 2011, pg 42.

<sup>9</sup> *Carrier Safety Measurement System (CSMS) Violation Severity Weights*, Federal Motor Carrier Safety Administration, November 2009.

<sup>10</sup> *Safety Measurement System Changes*, Federal Motor Carrier Safety Administration, June 2012, Page 7



decisions as well. The following paragraph from FMCSA's CSA methodology says so quite succinctly.

*In addition to supporting the CSA Operational Model, the Safety Measurement System (SMS) results can provide other stakeholders, such as insurers and shippers, with valuable safety information. The SMS results will be easily accessible via the Internet to encourage improvements in motor carrier safety. Findings from the SMS will allow the evaluated carriers an assessment of their weaknesses in various safety areas. In turn, the SMS will empower motor carriers and other stakeholders involved with the motor carrier industry to make safety-based business decisions.<sup>11</sup>*

The implication of course, is that the scores are a measure of safety – not compliance. Of course, as mentioned above, the system sometimes measures compliance with regulations which, according to the FMCSA/UMTRI analysis, don't have a statistical correlation to crash risk. Misleading shippers and insurers in this way is poor public policy.

#### **Electronic Logging Devices/EOBRs**

Though not even tangentially related to CSA, we will touch on the merits of electronic logging devices (EOBRs), since they were discussed at length during the Small Business Committee's CSA hearing. ATA supports mandatory adoption and use of EOBRs and, to that end, supports the provision in the recent highway reauthorization language directing DOT to require the devices.

EOBRs are increasingly affordable and more reliably track compliance with hours of service regulations, specifically driving time. In doing so, they hold all drivers and motor carriers accountable for operating within the hours of service limits. This step is important, since FMCSA's data shows a correlation between compliance with the hours of service rules and lower crash rates.

ATA would like to take this opportunity to correct claims about EOBRs made by some witnesses and members of the committee in the context of this hearing. For instance, one witness claimed that the cost of an EOBR mandate would put him out of business. This statement grossly exaggerates the financial impact of a mandate, since a number of EOBRs on the market can be purchased for an initial price of approximately \$500.

Also, a portion of the hearing was devoted to the estimated aggregate cost of the mandate to society. Specifically, a member of the committee referenced an August 2011 letter from President Obama to Speaker Boehner indicating that an EOBR mandate would cost over \$2 billion annually. It is important to point out that this figure is very misleading. First, the quoted figure represents the estimated gross cost but not the net cost, when resulting benefits are considered. In fact, according to FMCSA's regulatory impact analysis, such a mandate would not result in a net cost at all – but rather a net benefit. Also, this analysis was conducted over two years ago and based on the assumption that devices would cost almost \$1,700. However, devices are now available at a third of that cost. Finally, the member erroneously implied that the President's letter expressed a commitment to retreat from his administration's planned EOBR mandate.

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<sup>11</sup> *Safety Measurement System Methodology*, Version 2.2, January 2012, page 1-2.

**Conclusion**

ATA supports the laudable objectives of CSA – to use performance based data to generate real time measurements of safety performance and more efficiently target Federal enforcement resources. However, we have substantial concerns with data and methodology problems that undermine the effectiveness of the system. Ultimately, these problems hamper the system's ability to accurately measure relative safety performance. As a result, FMCSA is less effective at targeting unsafe carriers for enforcement and third parties are encouraged to make business decisions based, in part, on some erroneous safety measurements.

A document further detailing many of ATA's concerns with CSA is attached. Also, attached is an ATA summary of FMCSA's *Evaluation of its CSA Operational Model Test* (beta test). As you will see, it discusses the benefits of CSA but also the system's limitations, especially the weak relationship between scores and crash risk. Finally, it explains how FMCSA appears to be understating these limitations rather than acknowledging and correcting them.



July 18, 2012

The Honorable Sam Graves  
Chairman  
Committee on Small Business  
U.S. House of Representatives  
Washington, D.C. 20515

The Honorable Nydia Velazquez  
Ranking Member  
Committee on Small Business  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Chairman Graves and Ranking Member Velazquez:

Advocates for Highway and Auto Safety (Advocates) respectfully requests that this letter and the attached documents be made part of the hearing record of the House Committee on Small Business hearing, held on July 11, 2012, entitled, "Is the Federal Motor Carrier Safety Administration's Compliance, Safety, Accountability Program Driving Small Businesses Off the Road?"

Advocates would first like to express serious concern regarding the lack of representation of the safety community, and specifically, individuals who have had loved ones killed or injured in truck-involved crashes to give their views on the Compliance, Safety, Accountability (CSA) Program. In addition to having paid the ultimate price, truck crash victims and their families have first-hand experience with crash investigations and can offer important insights and expert knowledge about the process from a distinct and valuable perspective.

The CSA Program represents an improvement over the previous SafeStat system. It is essential that the data collection for CSA remain objective, thorough and tamper-proof and that information, including crash data, not be arbitrarily eliminated from the CSA database. Objections from trucking companies and independent owner-operators to the CSA program which could lead to dilution of the crash database by making determinations based on "fault" raise a host of serious concerns about factual objectivity and legal ramifications. The system is essential for public safety and accountability and it must not cater to special interest criticisms to the detriment of its efficacy.

Second, during the hearing there was debate about electronic on-board recorders (EOBRs). Advocates believes that during discussion of this issue, there was confusion regarding the position of the Obama Administration on EOBRs. While an August 30, 2011, letter from President Obama to Speaker Boehner in response to the Speaker's request for a list of pending rules that would cost over \$1 billion included the proposed EOBR regulation, the letter did not convey Administration opposition to the EOBR requirement or any of the other regulatory items on that list. The Obama Administration has consistently supported the need for EOBRs, as has Advocates, the National Transportation Safety Board, the American Trucking Associations, the International Brotherhood of Teamsters, AAA, the Commercial Vehicle Safety Alliance, the Truck Safety Coalition, the Alliance for Drive Safety and Security, and the Truckload Carriers Association. Attached is a support letter from these organizations which was distributed to the Senate on July 12, 2012, as well as an Advocates fact sheet on EOBRs which addresses some of the issues raised during the hearing. In fact, Congress approved an EOBR requirement as part of the recently enacted legislation known as Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), Pub. L. 112-141, which was passed with strong bipartisan and bicameral support.

Thank you for your time and acceptance of these documents. Please do not hesitate to contact me if I can be of assistance to you and the Committee.

Sincerely,

Jacqueline S. Gillan  
President



**ELECTRONIC ON-BOARD RECORDERS (EOBRs):  
SEPARATING EOBR FICTION FROM THE FACTS**

**EOBR Technology Brings Truck Driver Hours of Service Compliance into the 21<sup>st</sup> Century**

**EOBR Provision (§32301) in S.1813, MAP-21, is Supported by:**

*Advocates for Highway and Auto Safety, American Trucking Associations, Public Citizen,  
International Brotherhood of Teamsters, Commercial Vehicle Safety Alliance, Truck Safety Coalition, Alliance for  
Driver Safety and Security and the Truckload Carriers Association*

**Fiction:** EOBRs transmit information to the home office and to shippers and brokers.

**FACT:** **Neither the Federal Motor Carrier Safety Administration (FMCSA) nor the EOBR provision in S. 1813 (MAP-21) would require EOBRs to transmit information to the home office of the motor carrier or to shippers or brokers.** Basic EOBRs do not transmit hours of service (HOS) or other driving data to dispatchers or shippers unless the motor carrier voluntarily chooses to have that information transmitted and purchases a fleet management system for that purpose. Data transmission, real-time tracking and two-way communications are not required by the FMCSA or the Senate bill. Companies may choose to buy fleet management systems, but independent owner-operators would only have to buy the basic EOBRs.

**Fiction:** EOBRs are "black boxes" that record all kinds of personal information.

**FACT:** **EOBRs are like taxi meters except they only collect information about when the truck engine is turned on/off and when a truck is being driven.** This information is used to verify HOS driving time. The only requirement is that law enforcement officers can access the EOBR data during safety inspections. EOBRs do not collect personal information, take videos or record conversations.

**Fiction:** EOBRs are used to harass drivers and to squeeze more driving hours out of them.

**FACT:** **Just the opposite is true. EOBRs are a tool to ensure that drivers obey the existing HOS rules – not break them.** In 2011, nearly half (47%) of all commercial operator violations, over 550,000 violations, were HOS-related violations. By recording the truck engine operation, EOBRs prevent truck drivers from cheating in their logbooks in order to drive extra hours. More importantly, EOBRs empower truck drivers to adhere to the HOS limits even if shippers or dispatchers push them to violate the HOS rules. EOBRs also record driver time spent waiting to load/unload at shippers and receivers which can be used to identify "detention" time abuses.

**Fiction:** The Court of Appeals ruled that EOBRs are illegal.

**FACT:** **Not True. The U.S. Court of Appeals for the Seventh Circuit only held that FMCSA failed to explain how EOBRs would prevent harassment of truck drivers.** Since federal law requires FMCSA to address the issue of driver harassment, the Court sent the rule back to the agency for clarification. Also, the rule before the Court was limited to the use of EOBRs by motor carriers with safety problems, called the remedial rule, and the ruling has no effect on a rule required by the Senate bill.

**Fiction:** EOBRs will be used to disturb drivers when sleeping or resting.

**FACT:** **The Senate bill directs FMCSA to ensure that EOBRs will not be used to harass truck drivers.** Section 32301 of S.1813 specifically directs the DOT Secretary to prescribe a regulation "ensuring that an electronic on-board recording device is not used to harass a vehicle operator". FMCSA's safety advisory committee has recommended that motor carriers should not be allowed to disturb drivers during off-duty hours, and FMCSA regulations can prohibit such conduct. As previously stated, basic EOBRs do not come equipped with two-way voice communications.

**Fiction:** The cost of the EOBR mandate is \$2 billion.

**FACT:** **Any statement of just the cost alone is misleading because it entirely ignores the fact that benefits estimated by FMCSA will exceed the cost by between \$334 million and \$891 million.**

**Fiction:** EOBRs cost thousands of dollars and FMCSA used the figure of \$1,500. It is a “job-killer” that will force independent drivers out of the trucking industry.

**FACT:** **Wrong. The cost of EOBRs has dropped dramatically in recent years. Basic EOBR devices cost as little as \$499 or less, and require no monthly maintenance fees.** Moreover, competition and mass production of EOBRs will lower the price even more. The cost of an EOBR currently is about the same as the cost of buying paper logbooks over a 10-year period but EOBRs have a lifespan of 20 years. The figure of \$1,500 or more for current EOBRs used by opponents is misleading because it is an old figure from the 2005 rulemaking that, even then, FMCSA admitted was at the high-end of the cost range. Fatigue is a “driver killer” and EOBRs will ensure that independent drivers are not forced to violate HOS and put their lives at risk.

**Fiction:** EOBRs are no more reliable than paper logbooks for tracking HOS.

**FACT:** **Paper logbooks allow cheating.** Some drivers keep two sets of logs, one to show law enforcement and the other to show the company in order to get paid. Because logbooks can easily be falsified, they are often referred to as “comic books.” EOBRs prevent falsification of records by keeping objective information on truck engine operation. This prevents cheating by drivers acting either for personal gain or under duress from company pressure. For drivers who abide by the HOS rules, EOBRs will reduce time spent filling out paper logbooks and avoid violations for routine errors in HOS paperwork.

**Fiction:** EOBRs will not improve safety.

**FACT:** **EOBRs will help improve safety by making sure that drivers do not exceed the HOS rule limits and, therefore, fewer drivers will be driving while tired.** Since EOBRs are a compliance tool that permits police and truck safety inspectors to accurately assess the time a driver has been on the road, it will help prevent drivers from violating the HOS limits and improve compliance with existing safety regulations. Studies show that driver fatigue is a factor in at least 13%, and as many as 31%, of truck crashes. In 2011, over 550,000 violations involving some form of HOS violation were issued to commercial vehicle operators.

**Fiction:** EOBRs are more about attacking independent contractors and small businesses than safety.

**FACT:** **Many studies have found that truck drivers violate HOS limits. Driver surveys show that 65% of drivers have reported being drowsy while driving and 48% admit to falling asleep behind the wheel in the previous year. In 2011, nearly half of all (47%) driver violations were for breaches of the HOS rules.** Data from the FMCSA Compliance, Safety, Accountability (CSA) program shows that fatigued driving is strongly correlated with high crash rates. This is an industry-wide epidemic that needs to be addressed and there is reliable, cost-effective technology available. EOBRs will make the roads safer for truck drivers and the traveling public by assisting law enforcement to improve compliance with HOS limits and protecting truck drivers from being pushed beyond their physical limits.

**Fiction:** Support for EOBRs is motivated by a desire to ban owner-operators.

**FACT:** **The American Trucking Associations (ATA), the Alliance for Driver Safety and Security, and the Truckload Carriers Association signed a letter with safety groups and the Teamsters in support of a federal regulation to require the use of EOBRs to advance motor carrier safety.** Many trucking companies, private fleets and some smaller motor carriers have already installed EOBRs to improve driver performance and make their operations more efficient. EOBRs can save time at roadside inspections and reduce paperwork by eliminating hand-written log books and the need to keep some other supporting documents.

**Fiction:** EOBRs are unproven technology.

**FACT:** **Automatic on-board recorders have been used in the U.S. to record HOS data for many years. Federal rules have allowed the use of automatic on-board recording devices since 1989.** Many motor carriers have already installed EOBRs on some or all of their fleets and about 30% of the 3.6 million trucks in service currently have some form of EOBR installed. A number of U.S. companies manufacture EOBRs. EOBRs or similar technology have been used in Europe for decades and are required in the European Union nations, Morocco, Argentina, Brazil, Israel, Japan, Peru, Singapore, South Korea, Turkey, Uruguay and Venezuela.

**Fiction:** When an EOBR breaks down, the driver is out of business.

**FACT:** **In the event an EOBR does not work, the driver can switch back to keeping a hand-written log book until the EOBR is repaired.**

**Fiction:** Requiring EOBRs is pointless until the HOS rule issue is settled.

**FACT:** **EOBRs work and can provide objective information to assist law enforcement regardless of what HOS rule is in place. Should the HOS rule change, EOBR software can be updated to reflect the new rule.**



## ATA's TOP CONCERNS WITH FMCSA's COMPLIANCE, SAFETY, ACCOUNTABILITY PROGRAM

July, 2012

### **Introduction**

ATA has been supportive of the objectives of the Compliance, Safety, Accountability (CSA) program since its inception. Though ATA has had concerns with certain elements of the program, we have worked cooperatively with FMCSA to identify and implement potential solutions. To date, the agency has been responsive to several of ATA's concerns and has made many corresponding improvements to the program. However, ATA continues to have some concerns with the underlying data and methodology used to develop motor carriers' CSA scores. In an effort to bring about further improvement, ATA has developed a document describing each of these issues and corresponding solutions.

These issues include:

- Crash Accountability
- Underreporting of Crashes by States
- Warnings for Moving Violations
- Use of Dismissed Citations
- Carrier Access to Driver Safety Measurement System (DSMS) Scores
- Inappropriate Violation Severity Weights
- Renaming the *Fatigue Driving* BASIC
- Definition of an HM Carrier
- Load Securement Violations
- Regional Enforcement Disparities
- Scoring Based on Relative Performance
- Masking the Driver Fitness BASIC
- DataQs Request Issues

### **1. Crash Accountability**

CSA scores in the *Crash Indicator* are currently based on all motor carrier-involved DOT-recordable crashes, including those that the carrier did not cause nor could have prevented. As a result, FMCSA erroneously assigns high *Crash Indicator* scores to otherwise safe carriers and targets them for intervention. Doing so ultimately harms these carriers and makes the program less effective.

Because CSA scores are based on relative performance, whenever an otherwise safe carrier is assigned an above threshold *Crash Indicator* score, a relatively less safe carrier (one that *causes* crashes) escapes government scrutiny. In addition, carriers' reputations are harmed by this approach. Even though *Crash Indicator* scores are not publicly available, details of carrier-involved crashes *are* shown on a public website. In addition, shippers/brokers often require carriers to reveal their private *Crash Indicator* scores as a condition of doing business and use them as a factor in selecting carriers.

FMCSA recently recanted its previously announced intention to establish a process to determine crash accountability. Though the agency acknowledges having successfully tested its method for doing so, it cited "serious questions about the reliability of police accident reports" as the main reason for reversing course. Regrettably, FMCSA is not willing to identify these "serious questions" nor has the agency provided a timeline for evaluating/resolving these questions in order to implement a reasonable, much-needed process.

Recommendation: FMCSA should be transparent in communicating these serious questions with respect to the reliability of police accident reports and communicate a

timeline to resolve them. Then, the agency should quickly establish a process to use only those crashes for which motor carriers could reasonably be held accountable to calculate *Crash Indicator* scores. In the near term, the FMCSA should remove from consideration in the *Crash Indicator* those crashes that a motor carrier/driver clearly could not have prevented (e.g., struck while legally parked, struck by wrong-way driver, etc.). Also, FMCSA should discount those crashes that have been determined to be non-preventable by the agency's own staff and removed from calculation of a carrier's crash rate as the result of a safety rating challenge.<sup>1</sup>

Over the longer term, FMCSA should evaluate a process to make determinations on all carrier-challenged crashes. To address concerns over the implications of finding "fault," FMCSA should simply make determinations as to whether or not certain crashes would be of value to the agency in targeting a carrier for intervention based on known details on the crash (e.g. used or not used for prioritization).

## **2. Underreporting of Crashes**

The foundation of the CSA Safety Measurement System (SMS) is roadside inspection and crash data reported by the states. While reporting of this data has improved, it continues to suffer from inconsistencies, especially with respect to crash data. For instance, University of Michigan Transportation Research Institute (UMTRI) evaluations have revealed that some states report less than 30% of qualifying truck crashes to the database.<sup>2</sup> As a result, *Crash Indicator* scores for some carriers will vary widely based not on their crash experience, but on the reporting practices of the states in which they operate. A map depicting state crash reporting performance, based on the UMTRI's evaluations, is attached to this document.

Recommendation: Since the *Crash Indicator* is such an important tool for identifying unsafe carriers, FMCSA must make crash reporting one the highest priorities for improving CSA. Specifically, the agency must look at the practices employed by states that have high crash reporting percentages and determine what leverage it can employ to encourage other states to adopt the same practices.

## **3. Warnings for Moving Violations**

The CSA methodology applies the same severity weight to moving violations that result in warnings and those that result in the issuance of citations. ATA disagrees with this approach since, intuitively, officers typically issue warnings for less severe infractions that do not warrant a citation. FMCSA mitigated the impact of this problem by reducing the severity weights (points) assigned for less severe speeding violations (e.g. 1 – 5 mph over the limit). Presumably, these lesser violations are more likely to result in the issuance of a warning. However, the agency has not addressed the impact of warnings assigned for other types of moving violations.

Recommendation: FMCSA should assign lower severity weights (fewer points) for moving violations that do not result in the issuance of a citation.

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<sup>1</sup> FMCSA considers crash preventability when motor carriers contest safety ratings by presenting compelling evidence that the recordable crash rate is not a fair means of evaluating its accident factor.

<sup>2</sup> FMCSA-Sponsored MCMIS Evaluation Reports prepared by UMTRI! <http://www.umtri.umich.edu/divisionPage.php?pageID=308>

#### **4. Dismissed Citations**

The CSA methodology applies points to carriers' and drivers' records for violations, including citations that have been later been dropped or dismissed in court. Though FMCSA's DataQs guidelines recommend that states remove the points (when challenged by carriers) under certain circumstances, in many instances dismissed/dropped citations continue to count against carriers/drivers. It is inappropriate to continue to impose a consequence for a violation after a court has dropped or dismissed the charge.

Recommendation: FMCSA should remove points assigned for violations that are ultimately dropped or dismissed in Court.

#### **5. Carrier Access to Driver Safety Measurement System (DSMS) Scores**

CSA measures motor carriers and drivers in a comparative environment by scoring performance relative to others. Though motor carriers can obtain a driver applicant's history of roadside inspections and corresponding violations (through the Pre-Employment Screening Program) they cannot obtain the scores showing how that history compares to the balance of the driver population – even though such scores exist. Hence, motor carriers are left to guess whether the driver's performance is relatively good, average, or poor.

In contrast, the public (shippers, insurers, others) have access to carriers' scores of relative performance in most BASICs. By providing public access to DSMS scores in BASICs that have a positive relationship to crash risk, FMCSA would similarly help leverage motor carriers and others to hold drivers accountable. Of course, "accountability" is one of the key three tenets of the CSA program (*Compliance, Safety, and Accountability*). Failing to make these scores public substantially hinders driver accountability and erodes the effectiveness of the program.

Recommendation: FMCSA should make DSMS scores available to hiring carriers in order to help "raise the bar" and make it more difficult for unsafe drivers to operate.

#### **6. Violation Severity Weights**

Many of the violation severity weights are inappropriate given their relative relationship to crash risk. One of the underlying reasons for this problem is that in developing severity weights FMCSA grouped together "similar" violations and assigned all violations within each group the same weight. However, these violations are often dissimilar in terms of their relationship to crash risk or severity.

For instance, within the *placarding* group are violations for "failing to placard" which carries a weight of 5 points and "placard not mounted horizontally", which also carries a weight of five points. Failing to place any placards on a truck is a more serious offense than having one of the four placards not mounted horizontally, so the severity weights for these violations should reflect that fact.

A second problem is that FMCSA may be straying from the goal of the program which is to *prevent* crashes and their resulting injuries/fatalities. In instances where violations have little predictive value in terms of future crashes occurring, the agency defends high severity weights by claiming that such violations lend themselves to greater crash *severity*. In other cases, FMCSA points to the need to hold carriers "accountable" for violations of certain regulations, even though these violations have little, if any, relationship to crash risk. Naturally, if the regulations have little or no documented relationship to crash risk, the value of placing such emphasis on them is highly questionable.



As a result, individual severity weights are not always based on their statistical relationship to crash risk. In fact, FMCSA has asked stakeholders to offer their opinions on possible revisions to the severity weights, though these groups and individuals often lack any statistical information or the appropriate background to make meaningful recommendations. This exercise simply perpetuates the problem.

By not basing severity weights on meaningful data tying violations to crash risk, the system is a less reliable means on which to assess carriers' future crash propensity. For example, a recent evaluation of CSA's Operational Model Test noted that scores in two of the BASICs do not have a "positive" statistical association with crash risk and that scores in others do not have a "strong" relationship to crash risk. Inappropriate violation weights are one of the primary reasons why these BASICs don't provide accurate measures of crash risk.

Recommendation: In modifying violation severity weights, FMCSA should rely primarily on data demonstrating the link between each individual violation (not groups of violations) and crashes. When such data is not available or questionable due to data sufficiency problems (e.g., rarely cited violations), FMCSA should rely on guidance from subject matter experts from both industry and law enforcement that have first hand experience with such matters.

#### **7. Renaming the Fatigued Driving BASIC**

Currently, hours of service violations are measured in a category called the *Fatigued Driving* BASIC. However, the name of this category is misleading, because the overwhelming majority of violations cited in this category are for "paperwork" violations such as form and manner violations or failing to keep a log book current. Only a small percentage of violations are for driving while fatigued. As a result, shippers, insurers, news media and others erroneously believe that carriers with high scores in this category allow their drivers to drive while fatigued when - in fact - they are far more likely to commit recordkeeping violations. The behavioral issue currently being measured is hours of service non-compliance.

Recommendation: To properly communicate the behavior being measured, FMCSA should rename the *Fatigued Driving* BASIC to more appropriately reflect that scores in this category provide a measure of compliance with hours of service regulations. Specifically, it should be renamed the *Hours of Service* BASIC.

#### **8. Definition of an HM Carrier**

In mid-2011, FMCSA changed the definition of a Hazardous Materials (HM) Carrier (for applicability of lower intervention thresholds) to include only carriers that had transported HM in placarded quantities (generally 1,000 lbs or more) sometime in the prior 24 months. Previously, the agency had defined an HM carrier as one that hauled any quantity of HM. However, under the new definition, a carrier that had a single instance of carrying placarded HM as much as 24 months ago would be considered an HM carrier and subject to lower intervention thresholds.

Recommendation: FMCSA should employ a data sufficiency test so that an episodic movement of HM does not erroneously label a carrier as one that routinely raises the risk of crash severity. Also, the agency should limit its definition to carriers that have hauled placarded quantities in the prior 12 months, so that the system does not erroneously identify carriers as HM transporters when they have long since ceased such activities.

### **9. Load Securement Violations**

Load securement violations on open deck vehicles are more visible than in van bodied trailers and, as a result, are identified and documented more often. However, this is not necessarily a function of open deck carriers being less compliant but instead a function of the fact that their violations are more apparent. This problem is exacerbated by the fact that all load securement violations carry the maximum weight (10 on a scale of 1 to 10). FMCSA likely applied such weight to these violations since the agency's *Large Truck Crash Causation Study* shows a strong correlation between "load shift" and the critical reasons for crashes. However, not all load securement violations have an equal relationship to crash risk. For instance, improperly securing a load of steel coils should not bear the same severity weight as failing to secure a cardboard box. Finally, carriers that exceed the requirements (e.g., use additional securement devices) are penalized for doing so because a defect on any additional device bears as much weight as a violation on the minimum required devices. As a result, carriers are discouraged from exceeding the minimum requirements since doing so simply raises their risk of violations.

Recommendation: FMCSA should identify means to compare the performance of carriers of open deck equipment against carriers operating similar equipment. Further, the agency should revise the severity weights to better reflect the relative risk of specific load securement violations. Finally, FMCSA should work with the Commercial Vehicle Safety Alliance (CVSA) to ensure that carriers are not penalized for deficiencies identified on securement devices used only to provide additional protection when the minimum requirements have been met.

### **10. Regional Enforcement Disparities**

CSA measures motor carriers and drivers in a comparative environment by scoring their performance relative to others. However, some carriers are compared unfairly because they operate in states that have more robust enforcement programs or put a disproportionate emphasis on certain types of violations. The CSA methodology attempts to account for this disparity by measuring violations in the context of the number of relevant inspections and by placing carriers in safety event groups with other carriers that have had a similar number of inspections. However, the system does not account for the disproportionate focus on certain types of violations. For instance, carriers operating in Indiana are substantially more likely to be cited for speeding or seat belt violations than carriers operating in a neighboring state, not because they commit more violations but because they operate in Indiana. As such, carriers in other states are perceived as being much safer – simply because they are not subject to such focused enforcement. This flaw in the system affects the reliability of CSA scores and the ability of FMCSA to appropriately prioritize the most unsafe carriers.

Recommendation: FMCSA should acknowledge the prevalence of this problem and the impact it has on the reliability of carriers' scores. Then, FMCSA should develop a process to normalize violation data for states that issue a substantially disproportionate number of violations of a particular type. For instance, patterns of speeding violations issued in Indiana should be capped or factored to reflect the fact that carriers operating in that state are more likely to be cited for such violations than a similarly situated carrier operating in another state. Appropriate state proportions could be determined using the Motor Carrier Safety Assistance Program (MCSAP) grant formula which is based on road miles, vehicle miles of travel, population and fuel consumption.

### **11. Scoring Mechanism to Evaluate Carrier Performance**

The CSA methodology measures each carrier's performance on a comparative basis relative to carriers of similar size and exposure. In other words, carriers are graded on an ever-changing curve. As a result, they cannot reliably predict the scoring outcomes

of safety management initiatives undertaken to improve their scores. In fact, even if a carrier improves its on-road performance, its comparative score might not improve if its peers have improved at a greater rate or if it shifts into a different safety event group. Accordingly, safety management becomes guesswork because carriers cannot be confident that specific efforts/accomplishments will reliably produce improvements in their scores. Also, the benefits of trend analysis for a specific carrier are muted because periodic results depend, in part, on the performance of other carriers.

Recommendation: FMCSA should revise its scoring methodology to identify a fixed level of acceptable performance for carriers. By doing so, the agency will provide carriers with achievable performance targets. Such targets could be adjusted over time to promote continuous industry improvement. However, they should always clearly identify on-road performance levels that are acceptable, marginal, and unacceptable. For instance, FMCSA could identify acceptable measures in each BASIC expressed in terms of a ratio of violations to relevant inspections (carrier size/exposure in the *Unsafe Driving* BASIC). Desirable goals could easily be developed on the basis of existing records of average industry performance in each BASIC.

#### **12. Masking the Driver Fitness BASIC**

Motor carriers' scores in five of the CSA measurement categories are publicly available for review. Scores in two of the categories, the *Cargo Related* BASIC and the *Crash Indicator* have been withheld from public view since underlying data and methodology problems make the scores in these categories less meaningful. However, FMCSA's recent evaluation of its *CSA Operational Model Test* conducted by the University of Michigan Transportation Research Institute confirmed that scores in the *Driver Fitness* BASIC suffer from similar problems. In fact, the study revealed that scores in this BASIC have a negative statistical correlation with crash rates. Regrettably, public visibility of these scores has a profoundly negative impact on safe carriers that have high scores in the *Driver Fitness* BASIC because the scores erroneously suggest that the carrier is unsafe.

Recommendation: FMCSA should mask the *Driver Fitness* BASIC from public view since scores in this category have a negative statistical correlation with crash rates. Also, after correcting underlying methodology problems, FMCSA should test the reliability of scores to be sure they accurately identify unsafe carriers. Only then should the agency make scores in this category publicly available.

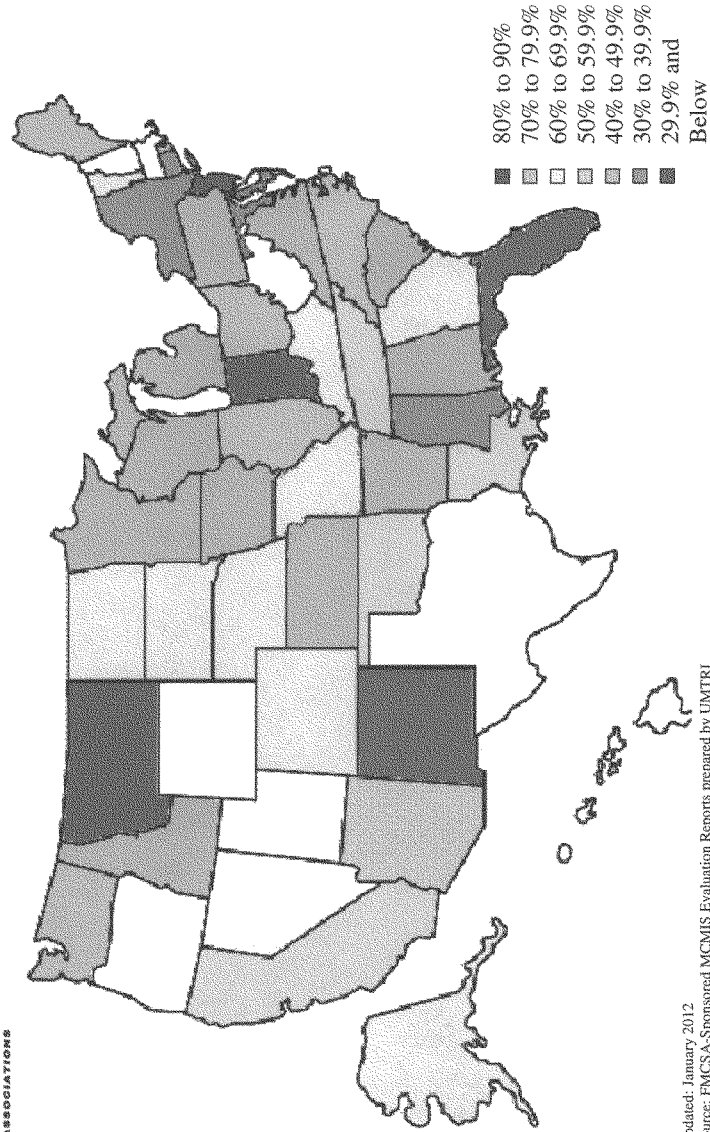
#### **13. DataQs Requests**

The foundation of the CSA program is roadside inspection and crash data reported by state agencies and other jurisdictions. However, carriers' efforts to correct erroneous data are hampered by overwhelmed *DataQs* personnel, response time lags, inconsistent policies between jurisdictions and other problems. These problems perpetuate the use of flawed data and ultimately impact the reliability of carriers' CSA scores.

Recommendation: FMCSA should develop and implement a concerted strategy to improve the *DataQs* process. The strategy should, at a minimum, be comprised of three primary elements. First, the agency should direct additional funding to states to handle the surge in *DataQs* requests. Second, FMCSA should require states to adhere to *DataQs* guidelines to ensure consistent responses to *DataQs* requests. Finally, the agency should implement a robust appeal process so that carriers have some meaningful resource to challenge *DataQs* responses from the respective jurisdictions.



## Percent of DOT Crashes Being Reported to MCMIS



Updated: January 2012  
 Source: FMCSA-Sponsored MCMIS Evaluation Reports prepared by UMTRI  
<http://www.umtri.umich.edu/divisionPage.php?pagerID=308>

July 12, 2012

Dear Senator:

As representatives of safety organizations, law enforcement, motor carriers, and professional truck drivers, we have come together in support of an important motor carrier safety provision which was included in H.R. 4348, the surface transportation authorization bill. The provision, Section 32301, directs the U.S. Department of Transportation (DOT) to issue a rule within one (1) year to require the use of "electronic logging devices," also known as electronic on-board recorders (EOBRs), on commercial motor vehicles operated in interstate commerce by drivers subject to hours of service (HOS) regulations. Enactment of this provision is essential for improving HOS compliance, assisting law enforcement in verifying compliance with HOS rules, and advancing highway safety.

However despite Congressional action to mandate EOBRs, the House, by voice vote and with only a few Members present, adopted an amendment to the FY 2013 Transportation, Housing and Urban Development (THUD) Appropriations bill, H.R.5972, to prohibit any funding from being used to implement this safety provision. We are writing to strongly urge you to oppose a similar amendment if it is offered during Senate consideration of the THUD Appropriations bill, and to oppose adoption of the House language in conference.

The National Transportation Safety Board (NTSB) has repeatedly recommended to the DOT that all trucks and buses be equipped with EOBRs as an effective strategy to improve the accuracy of carrier HOS records. In fact, in 2010-2011, the NTSB included this recommendation on the agency's "Most Wanted List" of transportation safety improvements. Currently, EOBRs are required in all European Union countries as well as numerous countries in South America and Asia.

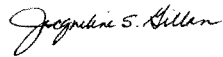
Contrary to the claim that EOBRs are an overly burdensome cost to some businesses, the Federal Motor Carrier Safety Administration (FMCSA) has estimated the annualized cost to be between \$525 and \$785 per truck over a 10-year period. This is a reasonable cost to help improve compliance with and enforcement of important truck safety rules.

Our diverse organizations share a common goal - to improve compliance with HOS rules and to improve the safety of all highway users. We strongly urge you to oppose any provision that would inhibit the implementation of Section 32301.

Thank you for your consideration.

Letter to Senate  
July 12, 2012  
Page 2

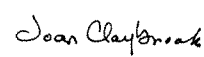
Sincerely,



Jacqueline S. Gillan  
President  
Advocates for Highway and  
Auto Safety



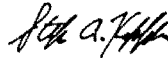
Bill Graves  
President and CEO  
American Trucking Associations



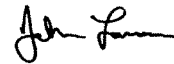
Joan Claybrook  
President Emeritus  
Public Citizen



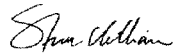
LaMont Byrd  
Director of Safety and Health  
International Brotherhood of  
Teamsters



Stephen Keppler  
Executive Director  
Commercial Vehicle Safety  
Alliance



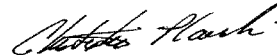
John Lannen  
Executive Director  
Truck Safety Coalition



Steve Williams  
Chairman  
Alliance for Driver Safety and  
Security



Chris Burruss  
President  
Truckload Carriers Association



Chris Plaushin  
Director, Federal Relations  
AAA



DATE: July 11, 2012

TO: House Committee on Small Business

Chairman Sam Graves [MO-06]  
 Representative Roscoe Bartlett [MD-06]  
 Representative Steve Chabot [OH-01]  
 Representative Steve King [IA-05]  
 Representative Mike Coffman [CO-06]  
 Representative Mick Mulvaney [SC-05]  
 Representative Scott Tipton [CO-03]  
 Representative Jeff Landry [LA-03]  
 Representative Jaime Herrera Beutler [WA-03]  
 Representative Allen West [FL-22]  
 Representative Renee Ellmers [NC-02]  
 Representative Joe Walsh [IL-08]  
 Representative Lou Barletta [PA-11]  
 Representative Richard Hanna [NY-24]

Representative Bobby Schilling [IL-17]  
 Ranking Member Nydia Velázquez (D-NY)  
 Representative Kurt Schrader (D-OR)  
 Representative Mark Critz (D-PA)  
 Representative Yvette Clarke (D-NY)  
 Representative Judy Chu (D-CA)  
 Representative David Cicilline (D-RI)  
 Representative Cedric Richmond (D-LA)  
 Representative Janice Hahn (D-CA)  
 Representative Gary Peters (D-MI)  
 Representative Bill Owens (D-NY)  
 Representative William Keating (D-MA)

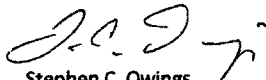
FROM: Stephen C. Owings, President Road Safe America

RE: CSA HEARING

It has been brought to our attention that the House Committee on Small Business will be meeting this week to discuss the CSA system in use at the Department of Transportation. Of particular concern is an argument you may hear concerning crash data. The trucking industry is arguing that crashes which are not the fault of the trucker should not count against CSA scores. In reality, the FMCSA's data shows a very strong correlation between past crashes, regardless of who was at fault, and future crashes. Any attempt at trying to determine fault will be very difficult as well as expensive, to say the least. In addition, any decisions to eliminate some crashes will, by definition, corrupt the data that all agree is such a clear predictor of future crash risk. That would be the opposite of what the system is trying to accomplish.

Please avoid any coercion to waste taxpayer funds/resources by changing the current system.

Sincerely,

  
 Stephen C. Owings  
 President and Co-Founder




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Parents Against Tired Truckers and Citizens for Reliable and Safe Highways

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July 20, 2012

The Honorable Sam Graves, Chairman  
 The Honorable Nydia Velazquez, Ranking Member  
 U.S. House of Representatives  
 Committee on Small Business  
 Washington, D.C. 20515  
 Via email to Committee Clerk, Anna Lake at [Anna.Lake@mail.house.gov](mailto:Anna.Lake@mail.house.gov)

Dear Chairman Graves and Ranking Member Velazquez:

We are writing on behalf of the Truck Safety Coalition (TSC) in regards to your Committee's July 11th hearing, "*Is FMCSA's CSA Program Driving Small Businesses Off the Road?*." The TSC is a partnership of the Citizens for Reliable and Safe Highways (CRASH) Foundation and Parents Against Tired Truckers (P.A.T.T.). We are dedicated to reducing the number of preventable deaths and injuries caused by truck-related crashes, providing compassionate support to truck crash survivors and families of truck crash victims, and educating the public, policy-makers and media about truck safety issues. Hundreds of victims throughout the country volunteer time to work with the TSC to achieve our mission. Like others who have been affected by motor vehicle deaths and injuries, they have taken their sorrow and turned it into strength through advocacy.

Consequently, we hope that you can appreciate the outrage and sadness felt by TSC volunteers at the complete lack of representation of the safety community, and in particular people who have lost loved ones in truck-related crashes who have firsthand experience with the Federal Motor Carrier Safety Administration's (FMCSA) Compliance, Safety, Accountability (CSA) Program. Moreover, our volunteers were affronted by the misinformation presented regarding the FMCSA's CSA Program and electronic on-board recorders (EOBRs). We would therefore like to provide some clarification regarding these issues.

At a time when nearly 4,000 people are killed every year in truck crashes and an additional 80,000 are injured, we believe Congress should be considering ways to make traveling on our roads safer. Had TSC volunteers been included in the hearing, they would have had the opportunity to provide insights as to how the CSA Program identifies high risk motor carriers for intervention and improved compliance. They could have also addressed the safety benefits and need for a national requirement for EOBRs in all commercial motor vehicles.

To address the unacceptable number of annual truck crashes that result in loss of life and injuries, the FMCSA replaced its SafeStat program with CSA. The CSA program was created from the need to utilize all data more quickly in order to focus on intervention and prevention. These improvements are necessary and overdue and should not be modified in ways that will hinder their effectiveness. The proposal of some members of the trucking industry seeking to arbitrarily remove crashes from the general data in order to subjectively reclassify the crashes as "preventable", "non-preventable" or "undetermined" based solely on the limited information contained in the police accident report (PAR) would compromise the



objectivity of the crash data, both in the short term when it is used for intervention and crash prevention and in long term studies that require complete data. It is important to note that within the CSA's Crash BASIC, all truck crashes are included because previous truck crashes, *regardless of fault*, are predictors of future truck crashes. The FMCSA relies on a long series of studies that support the proposition that crash involvement, regardless of fault or preventability, is a reliable predictor of future behavior. In fact, a 2005 American Transportation Research Institute (ATRI) study determined that a past truck crash increased the likelihood of a future crash by 87% (<http://www.atri-online.org/research/results/One-Pager%20CMVE.pdf>).

The TSC would like to also respond to remarks that indicated that President Obama believes EOBRs should not be implemented. The August 20, 2011, letter from President Obama to House Speaker Boehner to which was referred during the hearing merely listed EOBRs as one of several pending rules that would involve, on paper, a cost to industry of \$1 billion or more. The letter did not indicate that the benefits of the EOBR rule would exceed its cost, with most of the benefits derived from the elimination of paperwork which will directly benefit the companies that install EOBRs and the drivers who use them. More to the point, the letter did not state the Administration's position on the rule or give any indication that the Administration opposed the rule requiring EOBRs. In fact, the President's letter stated that "these rules are merely proposed, and before finalizing any of them, we will take account of public comments and concerns and give careful consideration to cost-saving possibilities and alternatives." If anything, the letter indicated support for continuing the rulemaking process. In fact, President Obama recently signed into law the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21), Public Law 112-141, which contains vital truck safety provisions, including an EOBR requirement.

Additionally, the TSC would like to explain that the \$2 billion cost to businesses for EOBRs, cited during the hearing, is an old estimate based on a \$1,500-2,000 price per EOBR unit from several years ago. Currently, basic EOBR units are being offered at under \$500 and prices may go down even more with increased production. The FMCSA is in the process of revising their EOBR cost estimates based on the new, less expensive unit price and this should have a dramatic effect in reducing the total costs to businesses. Even if prices do not decline and remain at the higher cost, EOBRs annual net benefit is estimated at \$344 million.

Furthermore, we were particularly offended by comments made by members of the committee to the effect that spending \$2 billion, or an estimated \$500,000 per truck crash victim, on EOBRs in order to save up to 4,000 lives a year is not worth the cost. The callous nature of these remarks is shocking and merits a second look. The National Highway Traffic Safety Administration's (NHTSA) 2009 estimate of the economic value of preventing a human fatality is \$6.3 million per fatality. Not only does the \$500,000 figure severely underestimate the accepted value of life, it also minimizes the tremendous pain and suffering families are forced to endure when they lose a loved one in a preventable truck crash. At \$6.3 million per fatality, the cost of annual truck crashes (not taking into account injuries, loss of property, congestion and other factors which would more than double the total cost) is approximately \$25.2 billion. The misinformed and hurtful comments about crash victims do not reflect well on the conduct of committee hearings.

EOBRs are necessary to the advancement of safe, modern trucking because they objectively record driving and on-duty time, prevent truck drivers from falsifying their log books, and protect truck drivers from being pushed to drive hours in excess of current limits. As a result of these safety benefits, truck driver fatigue and fatigue-related crashes will be reduced, compliance will improve, road side stops will become more efficient, and truck drivers will save time by eliminating paperwork. Most importantly, fatigue-related crashes will decline, as will the resultant deaths and injuries.

The CSA program and EOBR requirement are two of the most cost effective, innovative and life-saving truck safety developments in the last thirty years. The TSC urges you to put the safety of motorists first and reject any weakening of safety rules, regulations and programs. In future hearings on truck safety

issues, we respectfully request that you include the safety community and we also respectfully request that this letter be submitted to the hearing record.

Thank you for your time and consideration of these matters.

Sincerely,

Daphne Izer, Founder, Parents Against Tired Truckers  
Steve Izer, Board Member, Parents Against Tired Truckers  
Lisbon, Maine  
Son Jeffrey and three other teenagers were killed in a crash caused by a tired trucker.

Jane Mathis, Board Member, Parents Against Tired Truckers and Member, FMCSA's Motor Carrier Safety Advisory Committee  
St. Augustine, FL  
Son David and his wife Mary Kathryn were killed when a truck driver, who had fallen asleep behind the wheel, rear-ended their car setting it on fire.

Jennifer Tierney, Board Member, Citizens for Reliable and Safe Highways  
Kernersville, NC  
Father James Mooney was killed when he crashed into a semi blocking the roadway on a dark, rural road. The semi did not have working lights, reflector tape or underride guards.

Steve Owings  
Founder, Road Safe America  
Steve Owings and his wife, Susan, founded Road Safe America in 2003 after their son, Cullum, was killed when his car – stopped in an interstate traffic jam – was crushed from behind by a speeding tractor trailer going seven miles per hour above the posted speed limit on cruise control.

Linda Wilburn  
Board Member, Parents Against Tired Truckers  
Weatherford, OK  
Son Orbie was killed when a tired trucker going 73 mph rear-ended his car which was stopped in traffic.

Marchelle and Frank Wood  
Falls Church, VA  
Daughter Dana and Dana's friend were killed when a tired trucker driving on a suspended license slammed into their car.

Dawn King, Board Member, Citizens for Reliable and Safe Highways  
Davisburg, MI  
Dawn's father, Bill Badger, was killed by a tired trucker who fell asleep at the wheel and crashed into his car.

Tami Friedrich Trakh, Board Member, Citizens for Reliable and Safe Highways  
Corona, CA  
Sister Kris, Brother-in-law Alan, Niece Brandie and Nephew Anthony were killed when a tanker truck overturned on the 10 freeway in Claremont, CA.

Lawrence Liberatore, Board Member, Parents Against Tired Truckers  
Severn, MD  
Son Nick was killed by a fatigued truck driver who veered across 3 lanes of traffic and ran over his car.

John Lannen  
Executive Director, Truck Safety Coalition

cc: Members of the Committee on Small Business